

ANEXO 24-0491-2-A RALED III 80 LED RA10 210W

Driver ADVANCE XITANIUM 180W 0.1-0.9A 0-10V Dimming SimpleSet

Driver ADVANCE XITANIUM 100W 1.1A 0-10V Dimming

MOD LED 2X8 Z15 5050 4K SEOUL (5 UND)

ABLE AP5P277MG



Light Output Ratio: 100.0%

Luminaire Power: 210 W

I80 = 77.1 cd per klm. I88 = 2.8 cd per klm.

I90 = 0.9 cd per klm. I80/I88 = 27.224

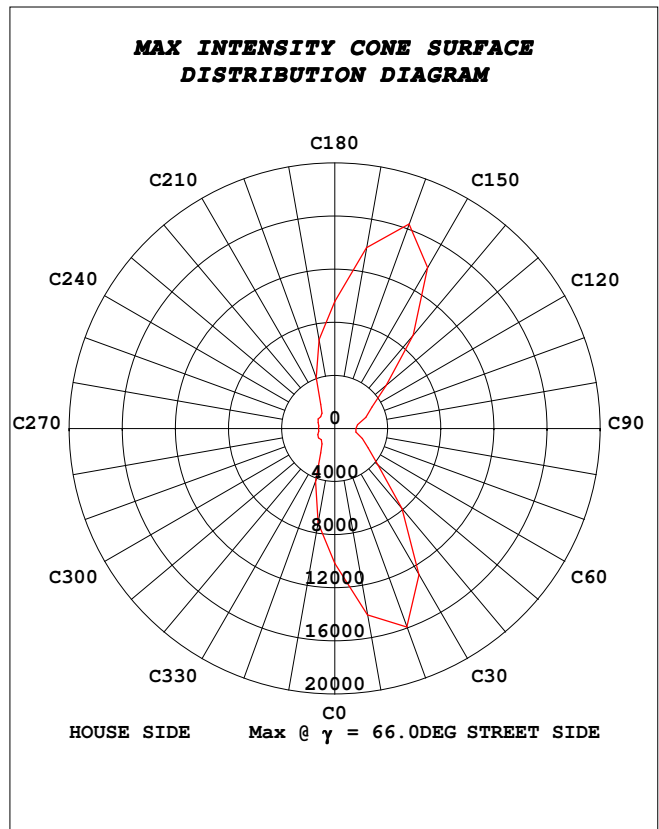
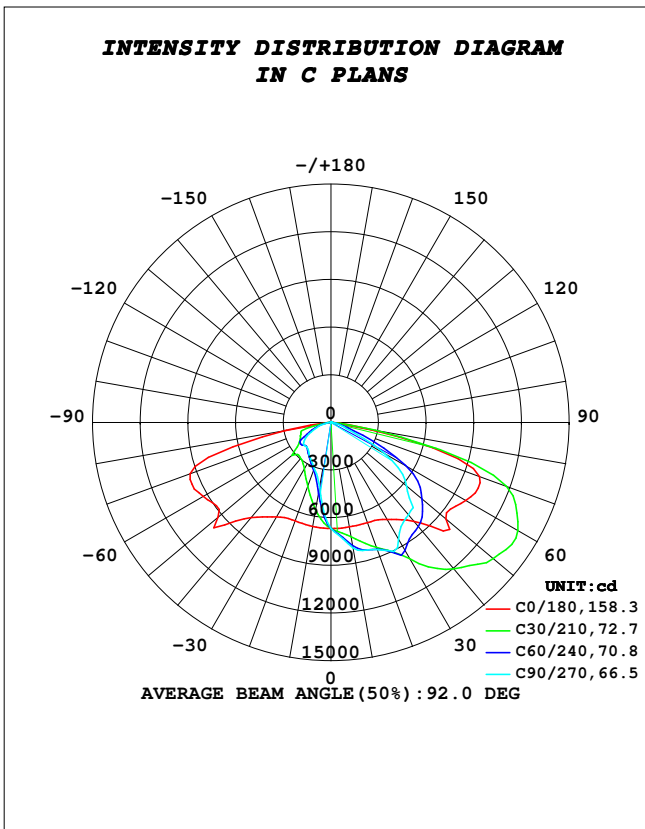
**C Range: 0 - 360DEG**  
**C Interval: 10.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25±1°CDEG**  
**Operators: Fabian Loaiza**  
**Test Date: 2024-08-05**

**γ Range: 0 - 180DEG**  
**γ Interval: 2.0DEG**  
**Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10**  
**Humidity: MAX: 51.4-MIN: 41.6%**  
**Test Distance: 7.080m [K=1.0000]**  
**Remarks: ANEXO 24-0491-2-A RALED III 80 LED**  
**Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm**  
**Driver XITANIUM 100W 1.1A 0-10V Dimming**  
**MOD LED 2X8 Z15 5050 4K SEOUL**

## STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE: Alumbrado Publico	WEIGHT:-----
SPEC.: 80 LED 210W	DIM.: -----	SERIAL No.: 24-0491-2
MFR.: ROY ALPHA	SUR.: -----	Shielding Angle:-----

DATA OF LAMP		PHOTOMETRIC DATA Eff: 141.55 lm/W			
MODEL	2X8 Z15 5050 4K	Imax(cd)	16386	$\eta$ street_up(%)	0.2
NOMINAL POWER(W)	210	LOR(%)	100.0	$\eta$ street_down(%)	71.7
RATED VOLTAGE(V)	-----	TOTAL FLUX(lm)	29720	$\eta$ house_up(%)	0.4
NOMINAL FLUX(lm)	29720.1	MAXIMUM @ (C, $\gamma$ )	160,66.0	$\eta$ house_down(%)	27.7
LAMPS INSIDE	1	$\eta$ up(%)	0.6	76 FLASHAREA(m2)	
TEST VOLTAGE(V)	220	$\eta$ down(%)	99.4	SLI	

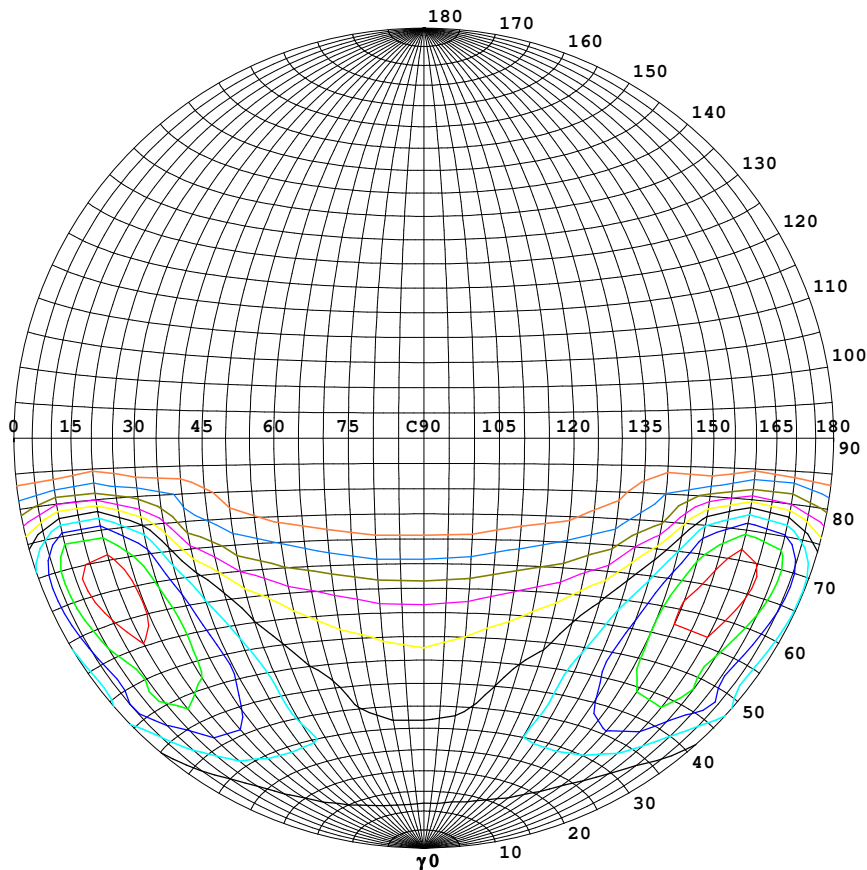


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°C DEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## STREETLIGHT ISOCANDELA DIAGRAM

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE: Alumbrado Publico	WEIGHT:-----
SPEC.: 80 LED 210W	DIM.: -----	SERIAL No.: 24-0491-2
MFR.: ROY APLHA	SUR.: -----	Shielding Angle:-----



### Classification:

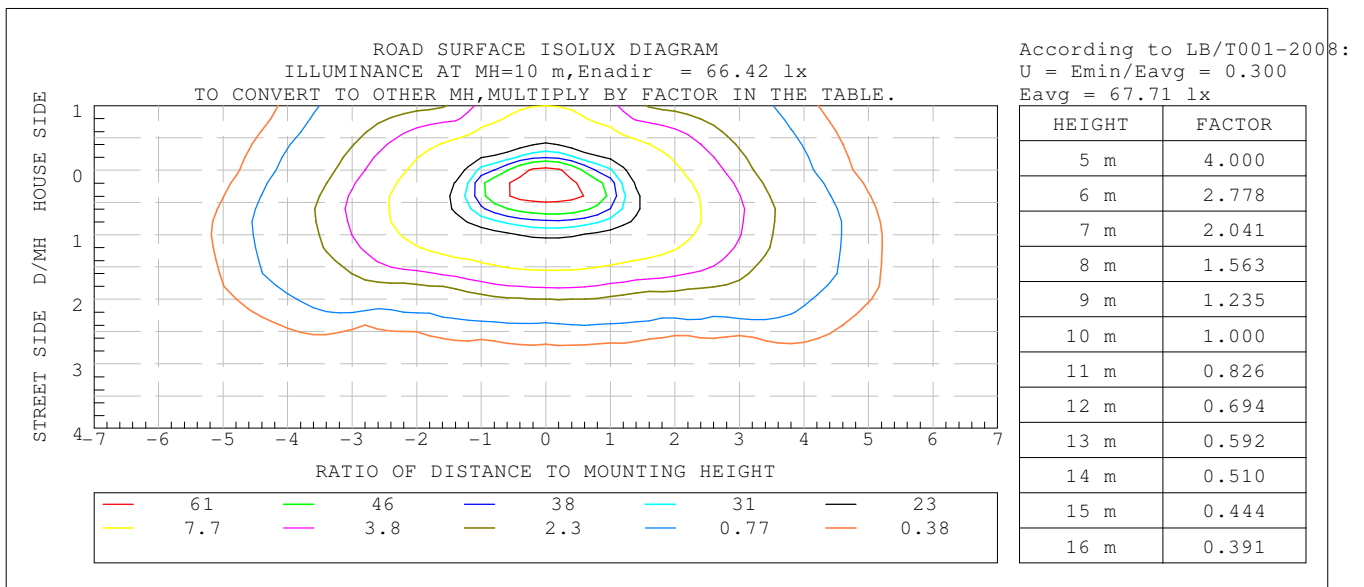
IES: Type III - Short  
CIE: Average - Intermediate  
IES: None cut-off  
CIE: Non-cut-off  
Max. At 80: 203.3cd/klm  
Max. At 90: 0.9724cd/klm  
Max. 80-90: 203.3cd/klm  
NRB 5101: Non limited[39.5%]

ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	16386
90%	14747
80%	13109
70%	11470
60%	9832
50%	8193
40%	6554
30%	4916
20%	3277
10%	1639
5%	819

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°CDEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## COEFFICIENT OF UTILIZATION CURVE AND ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°C DEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALEED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## ZONAL FLUX DIAGRAM

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE:Alumbrado Publico	WEIGHT:-----
SPEC.:80 LED 210W	DIM.: -----	SERIAL No.:24-0491-2
MFR.: ROY APLHA	SUR.:-----	Shielding Angle:-----

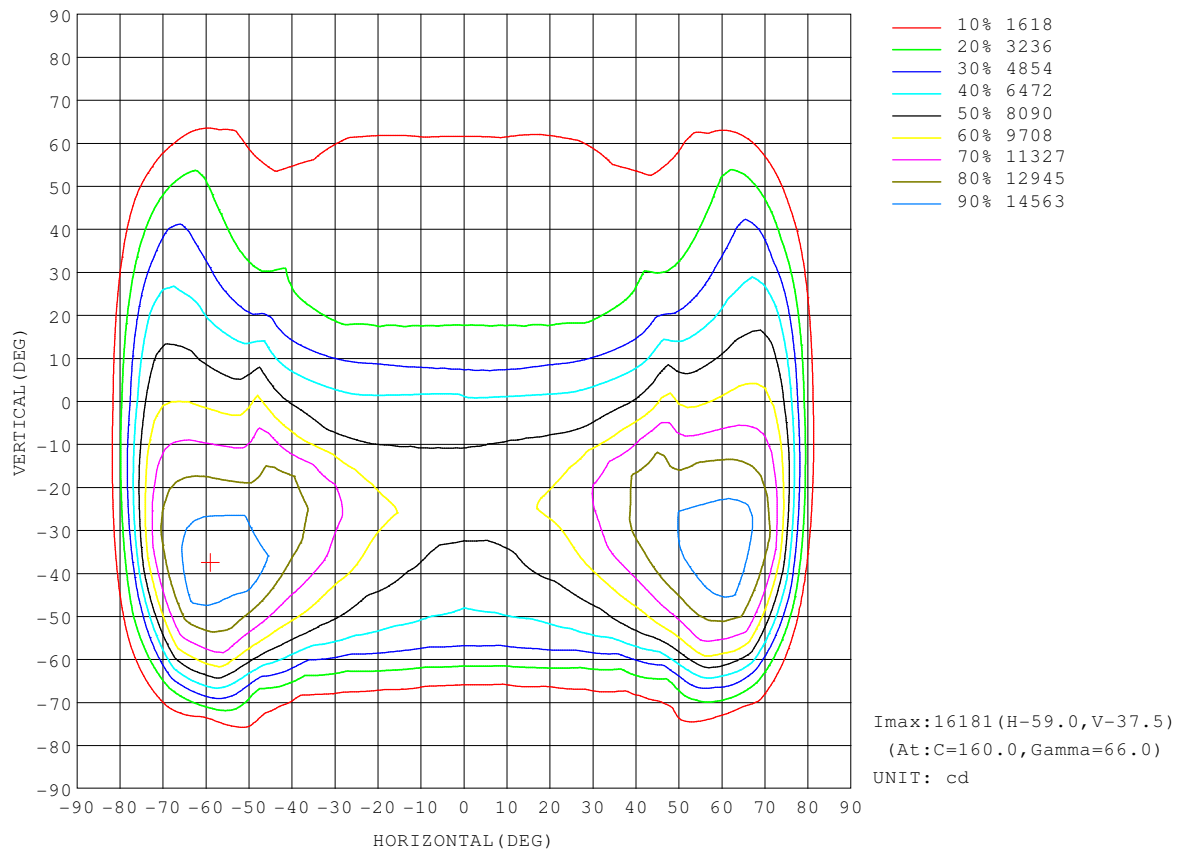
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	668.0	762.5	801.9	753.5	665.0	499.3	416.8	491.8	0- 10	616.1	616.1	2.07,2.07
20	671.3	856.0	851.3	861.0	659.8	354.2	309.5	358.6	10- 20	1757	2373	7.98,7.98
30	704.6	997.6	852.5	1015	686.0	286.9	261.5	293.3	20- 30	2887	5260	17.7,17.7
40	812.5	1024	759.9	1086	782.8	249.9	224.3	256.4	30- 40	4051	9311	31.3,31.3
50	944.2	1004	621.6	1093	929.3	233.7	223.0	238.2	40- 50	5245	14556	49,49
60	981.5	848.7	382.1	945.5	930.1	185.0	177.2	182.0	50- 60	5801	20357	68.5,68.5
70	995.1	386.2	88.05	493.2	943.6	119.3	95.81	117.7	60- 70	5384	25741	86.6,86.6
80	229.1	95.72	25.05	116.0	285.2	47.48	22.45	45.40	70- 80	3396	29137	98,98
90	2.529	0.9093	0.6958	1.403	2.527	1.189	0.3431	1.318	80- 90	412.7	29550	99.4,99.4
100	3.578	0.8427	0.5556	0.7865	3.101	2.300	0.8641	2.558	90-100	15.51	29565	99.5,99.5
110	4.361	1.177	0.8178	1.105	3.922	3.149	1.728	3.408	100-110	22.20	29587	99.6,99.6
120	4.699	1.527	1.077	1.424	4.310	3.865	2.629	4.244	110-120	26.34	29614	99.6,99.6
130	4.646	1.848	1.304	1.648	4.576	4.083	3.548	4.956	120-130	27.60	29641	99.7,99.7
140	4.324	2.181	1.528	1.924	4.637	4.131	4.158	5.246	130-140	25.74	29667	99.8,99.8
150	4.100	2.611	1.949	2.239	4.411	4.252	4.502	5.071	140-150	21.88	29689	99.9,99.9
160	4.049	3.074	2.565	2.665	4.290	4.331	4.552	4.661	150-160	16.77	29706	100,100
170	4.055	3.583	3.286	3.190	4.219	4.316	4.385	4.278	160-170	10.69	29716	100,100
180	4.158	4.063	3.985	3.821	4.163	4.066	3.986	3.823	170-180	3.714	29720	100,100
DEG	LUMINOUS INTENSITY: 110cd Less than 35% Percent = 13.6 %									UNIT:lm		

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25±1°CDEG  
Operators:Fabian Loaiza  
Test Date:2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity:MAX:51.4-MIN:41.6%  
Test Distance:7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## ISOCANDELA DIAGRAM

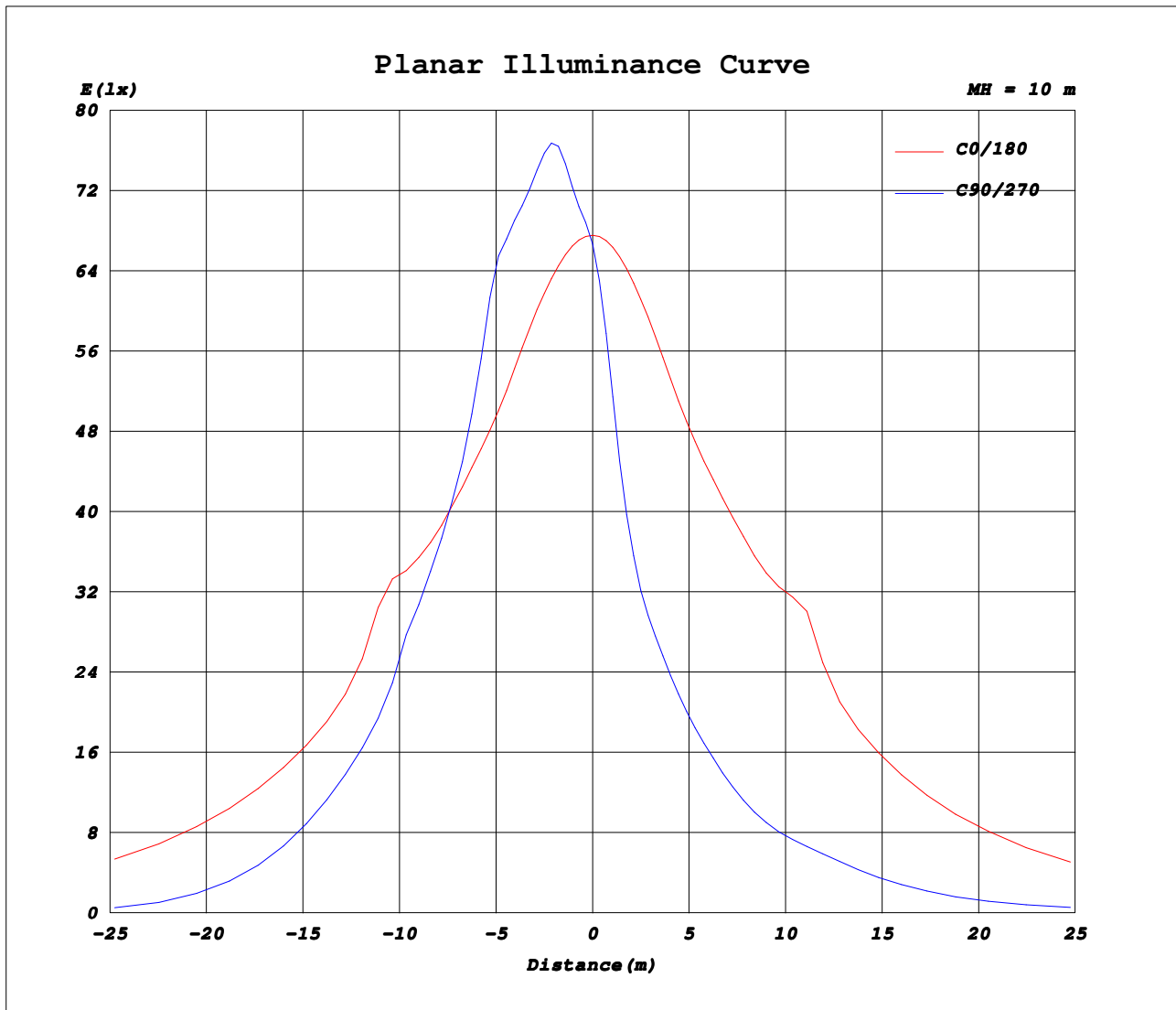
Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE:Alumbrado Publico	WEIGHT:-----
SPEC.:80 LED 210W	DIM.: -----	SERIAL No.:24-0491-2
MFR.: ROY APLHA	SUR.:-----	Shielding Angle:-----



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25±1°CDEG  
Operators:Fabian Loaiza  
Test Date:2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity:MAX:51.4-MIN:41.6%  
Test Distance:7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## Planar Illuminance Curve



**C Range:** 0 - 360DEG  
**C Interval:** 10.0DEG  
**Test Speed:** HIGH  
**Temperature:** 25±1°CDEG  
**Operators:** Fabian Loaiza  
**Test Date:** 2024-08-05

**γ Range:** 0 - 180DEG  
**γ Interval:** 2.0DEG  
**Test System:** EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
**Humidity:** MAX: 51.4-MIN: 41.6%  
**Test Distance:** 7.080m [K=1.0000]  
**Remarks:** ANEXO 24-0491-2-A RALED III 80 LED  
 Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
 Driver XITANIUM 100W 1.1A 0-10V Dimming  
 MOD LED 2X8 Z15 5050 4K SEOUL

Driver ADVANCE XITANIUM 180W 0.1-0.9A 0-10V Dimming SimpleSet  
Driver ADVANCE XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL (5 UND)  
ABLE AP5P277MG

Test Distance: 7.080 metres  
Test Tempertature: 25±1°C degrees Celsius

Significance: ENSAYO FOTOMETRICO A LUMINARIAS  
ROY ALPHA S.A  
CALLE 15 No 32-598  
Acopi Yumbo

Special Notes: EQUIPOS UTILIZADOS  
Fotogoniómetro EQEN-023  
Fuente de tensión INCO-011  
Luxometro INME-039  
Flexometro INME-041  
Controlador de temperatura INME-046  
Analizador de potencia INME-013  
Datalogger INME-021-1  
El presente reporte de pruebas no se debe reproducir en forma parcial,  
sin la aprobación del Laboratorio de ensayos de Roy Alpha.

Realizó/revisó Realizó  
Fabian Loaiza.

Revisó  
Luis Asprilla.

Testing Procedure: Las prueba fue realizada de acuerdo con la norma LM 79 de 2019.  
Tiempo de estabilizacion: 0:10':00"  
Tiempo de ensayo: 0:20':27"

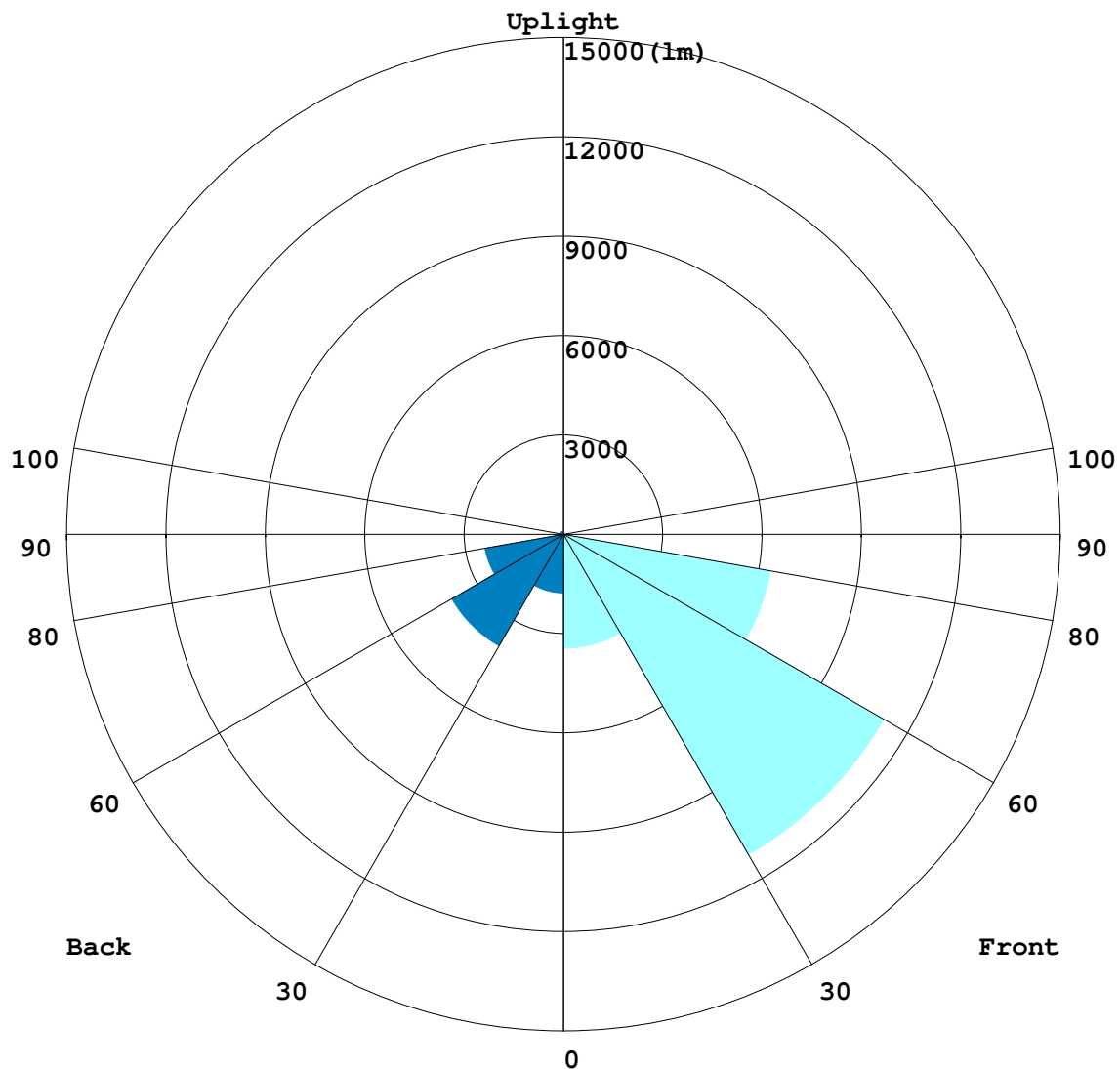
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°CDEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## LCS REPORT

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE:Alumbrado Publico	WEIGHT:-----
SPEC.:80 LED 210W	DIM.: -----	SERIAL No.:24-0491-2
MFR.: ROY APLHA	SUR.:-----	Shielding Angle:-----

### LUMINAIRE CLASSIFICATION SYSTEM(LCS) GRAPH



**C Range:** 0 - 360DEG  
**C Interval:** 10.0DEG  
**Test Speed:** HIGH  
**Temperature:** 25±1°CDEG  
**Operators:** Fabian Loaiza  
**Test Date:** 2024-08-05

**γ Range:** 0 - 180DEG  
**γ Interval:** 2.0DEG  
**Test System:** EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
**Humidity:** MAX:51.4-MIN:41.6%  
**Test Distance:** 7.080m [K=1.0000]  
**Remarks:** ANEXO 24-0491-2-A RALED III 80 LED  
 Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
 Driver XITANIUM 100W 1.1A 0-10V Dimming  
 MOD LED 2X8 Z15 5050 4K SEOUL

## BUG REPORT

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE:Alumbrado Publico	WEIGHT:-----
SPEC.:80 LED 210W	DIM.: -----	SERIAL No.:24-0491-2
MFR.: ROY APLHA	SUR.:-----	Shielding Angle:-----

### IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	3464.7	11.7
FM - Front-Medium(30-60)	11190	37.7
FH - Front-High(60-80)	6363.9	21.4
FVH - Front-Very High(80-90)	289.8	1.0
Total Forward Light	21370	71.9

BL - Back-Low(0-30)	1795.1	6.0
BM - Back-Medium(30-60)	3906.5	13.1
BH - Back-High(60-80)	2416.4	8.1
BVH - Back-Very High(80-90)	122.86	0.4
Total Back Light	8349.9	28.1

UL - Uplight-Low(90-100)	15.515	0.1
UH - Uplight-High(100-180)	154.92	0.5
Total Up Light	170.44	0.6

BUG (Back, Up, Glare) Rating	B3-U3-G3
------------------------------	----------

Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	8240.9	109.07	8349.9
Street Side	21309	61.365	21370

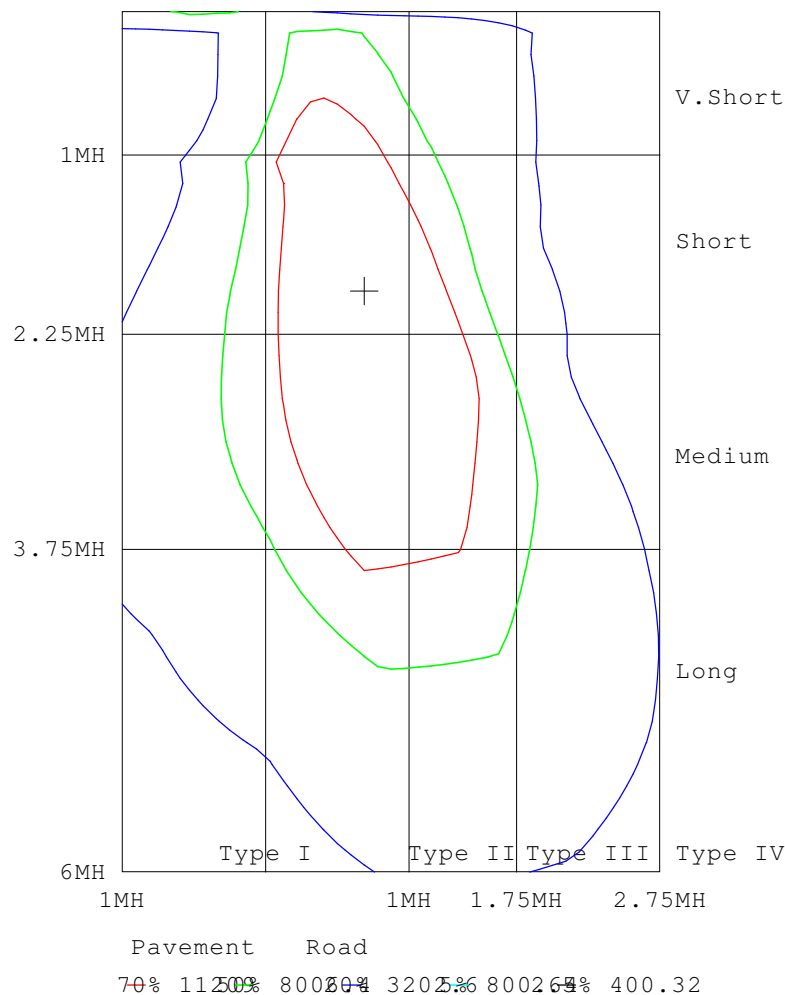
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25±1°CDEG  
Operators:Fabian Loaiza  
Test Date:2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity:MAX:51.4-MIN:41.6%  
Test Distance:7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## ROAD ISOCANDELA REPORT

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE:Alumbrado Publico	WEIGHT:-----
SPEC.:80 LED 210W	DIM.: -----	SERIAL No.:24-0491-2
MFR.: ROY ALPHA	SUR.:-----	Shielding Angle:-----

ROAD SURFACE ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25±1°CDEG  
Operators:Fabian Loaiza  
Test Date:2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity:MAX:51.4-MIN:41.6%  
Test Distance:7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE:Alumbrado Publico	WEIGHT:-----
SPEC.:80 LED 210W	DIM.: -----	SERIAL No.:24-0491-2
MFR.: ROY APLHA	SUR.:-----	Shielding Angle:-----

Table--1

UNIT:  $\mu$ A10cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668
5	668	676	683	689	695	700	704	708	710	711	710	708	705	702	697	693	686	677	668
10	668	688	708	731	753	772	786	795	800	802	800	793	781	764	743	722	704	687	665
15	669	696	731	770	802	820	826	830	829	831	830	833	829	817	790	753	718	692	662
20	671	715	783	838	856	856	850	850	850	851	850	853	855	864	858	820	754	700	660
25	676	738	828	881	891	887	885	885	883	883	885	888	890	895	900	873	797	714	662
30	705	811	940	990	1006	989	932	883	851	853	865	912	966	1011	1018	991	906	772	686
35	737	895	1055	1096	1060	976	885	827	793	791	808	859	932	1026	1098	1115	1025	844	717
40	812	1064	1230	1204	1087	961	857	794	762	760	775	824	904	1022	1151	1263	1226	1000	783
45	907	1200	1324	1253	1113	952	828	760	735	747	744	790	879	1022	1181	1323	1349	1136	864
50	944	1229	1384	1334	1117	891	747	699	640	622	657	732	800	976	1210	1411	1402	1201	929
55	930	1255	1433	1362	1079	832	696	613	564	558	580	651	745	919	1184	1454	1442	1205	892
60	982	1351	1547	1359	983	714	543	455	392	382	405	484	586	797	1093	1502	1558	1291	930
65	1011	1409	1595	1302	884	540	371	300	243	235	257	326	411	619	993	1452	1628	1356	957
70	995	1434	1501	1176	526	246	154	99.8	88.5	88.1	90.6	111	175	293	693	1283	1571	1403	944
75	832	1284	1282	919	253	116	77.9	66.4	56.3	56.8	58.1	71.7	84.0	135	367	1078	1347	1272	802
80	229	470	473	286	136	55.5	31.2	29.0	25.0	25.1	26.6	31.0	36.1	66.2	166	385	604	488	285
85	63.7	65.6	107	61.1	55.2	24.0	13.3	11.1	11.1	10.3	11.9	12.2	15.9	28.5	77.7	65.0	105	82.8	58.0
90	2.53	1.95	1.51	1.17	0.84	0.98	0.76	1.05	0.70	0.70	0.80	1.22	1.07	1.42	1.38	2.07	2.10	2.89	2.53
95	2.88	2.21	1.54	1.04	0.72	0.54	0.46	0.42	0.41	0.40	0.40	0.41	0.45	0.51	0.66	0.90	1.35	1.94	2.35
100	3.58	2.81	2.00	1.37	0.96	0.72	0.62	0.57	0.56	0.56	0.56	0.56	0.60	0.68	0.89	1.23	1.81	2.55	3.10
105	3.95	3.16	2.28	1.58	1.12	0.85	0.73	0.67	0.67	0.66	0.66	0.67	0.70	0.80	1.03	1.42	2.07	2.90	3.49
110	4.36	3.56	2.60	1.83	1.33	1.02	0.88	0.82	0.82	0.82	0.81	0.81	0.86	0.97	1.23	1.67	2.40	3.30	3.92
115	4.52	3.72	2.76	1.99	1.47	1.15	0.99	0.92	0.93	0.92	0.92	0.91	0.96	1.10	1.38	1.83	2.57	3.48	4.09
120	4.70	3.94	3.03	2.26	1.71	1.34	1.14	1.08	1.08	1.08	1.06	1.06	1.10	1.26	1.58	2.06	2.79	3.65	4.31
125	4.75	4.05	3.18	2.42	1.86	1.46	1.24	1.18	1.18	1.17	1.16	1.15	1.19	1.36	1.68	2.15	2.84	3.63	4.43
130	4.65	4.07	3.31	2.60	2.05	1.65	1.43	1.34	1.31	1.30	1.28	1.29	1.34	1.50	1.80	2.22	2.80	3.45	4.58
135	4.51	4.02	3.36	2.69	2.16	1.78	1.56	1.45	1.41	1.39	1.36	1.37	1.44	1.61	1.89	2.26	2.76	3.31	4.67
140	4.32	3.93	3.39	2.83	2.36	2.00	1.78	1.64	1.57	1.53	1.50	1.52	1.62	1.80	2.05	2.36	2.74	3.15	4.64
145	4.20	3.88	3.43	2.95	2.51	2.16	1.95	1.81	1.72	1.67	1.64	1.66	1.76	1.93	2.16	2.43	2.74	3.08	4.53
150	4.10	3.86	3.51	3.13	2.77	2.46	2.20	2.09	1.99	1.95	1.92	1.95	2.02	2.15	2.33	2.54	2.77	3.03	4.41
155	4.07	3.87	3.58	3.26	2.94	2.66	2.37	2.31	2.22	2.18	2.16	2.18	2.23	2.33	2.47	2.64	2.83	3.05	4.35
160	4.05	3.89	3.67	3.43	3.18	2.97	2.67	2.70	2.61	2.56	2.54	2.55	2.57	2.62	2.71	2.82	2.98	3.17	4.29
165	4.03	3.91	3.74	3.55	3.35	3.19	2.90	2.97	2.89	2.85	2.82	2.81	2.81	2.83	2.89	2.97	3.09	3.25	4.26
170	4.05	3.99	3.88	3.75	3.64	3.53	3.26	3.38	3.32	3.29	3.25	3.21	3.18	3.18	3.20	3.24	3.30	3.39	4.22
175	4.11	4.06	3.97	3.89	3.81	3.75	3.51	3.65	3.61	3.57	3.52	3.49	3.46	3.44	3.43	3.44	3.46	3.51	4.21
180	4.16	4.15	4.12	4.10	4.07	4.06	3.87	4.02	3.99	3.99	3.96	3.95	3.90	3.86	3.78	3.74	3.67	3.65	4.16

C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature:25±1°CDEG

Operators:Fabian Loaiza

Test Date:2024-08-05

γ Range: 0 - 180DEG

γ Interval: 2.0DEG

Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10

Humidity:MAX:51.4-MIN:41.6%

Test Distance:7.080m [K=1.0000]

Remarks: ANEXO 24-0491-2-A RALED III 80 LED

Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm

Driver XITANIUM 100W 1.1A 0-10V Dimming

MOD LED 2X8 Z15 5050 4K SEOUL

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.05V I:0.9666A P:209.97W PF:0.9871 Freq:60.01Hz Lamp Flux:29720.1x1 lm		
NAME: ANEXO 24-0491-2-A RALED III 80 LED	TYPE:Alumbrado Publico	WEIGHT:-----
SPEC.:80 LED 210W	DIM.: -----	SERIAL No.:24-0491-2
MFR.: ROY APLHA	SUR.:-----	Shielding Angle:-----

Table--2

UNIT:  $\mu$ A10cd

$\gamma$ (DEG) \ C (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668		
5	658	648	636	624	611	602	592	588	583	586	588	596	605	618	630	644	656		
10	639	603	560	519	479	452	431	422	417	421	428	447	472	511	553	597	637		
15	625	569	504	448	406	382	364	356	353	357	365	382	406	445	500	566	627		
20	607	518	429	372	336	321	314	310	310	311	316	326	341	376	432	521	616		
25	595	484	388	335	310	299	290	286	287	288	293	302	316	341	395	492	608		
30	587	435	337	296	277	267	262	260	261	262	265	271	283	303	346	449	607		
35	589	415	314	277	259	251	248	246	246	247	251	255	265	284	323	430	613		
40	604	400	297	260	240	230	230	225	224	226	232	233	246	267	304	415	632		
45	637	401	291	251	227	219	218	216	218	217	221	222	234	258	296	415	673		
50	689	434	323	248	220	225	222	220	223	222	226	229	224	253	320	436	712		
55	653	380	263	243	228	236	220	213	214	211	222	237	233	241	261	393	686		
60	662	384	226	188	182	220	202	180	177	178	206	209	177	187	225	401	702		
65	687	402	214	163	152	167	153	140	139	140	156	162	148	161	215	419	730		
70	654	416	203	130	108	111	105	97.0	95.8	96.3	105	108	106	130	205	438	696		
75	546	374	194	108	77.1	79.4	78.0	68.3	65.5	68.8	78.5	77.7	75.6	108	191	389	546		
80	195	107	65.7	58.8	36.1	36.8	28.9	25.3	22.4	25.4	29.3	34.4	36.1	54.7	60.2	111	165		
85	45.7	29.7	18.7	17.4	12.7	11.2	11.4	8.63	9.07	8.62	11.5	10.5	11.9	15.6	14.9	28.6	34.4		
90	2.41	2.39	1.94	1.45	0.93	0.54	0.40	0.34	0.34	0.36	0.44	0.63	1.07	1.57	2.05	2.25	2.24		
95	2.68	2.66	2.41	1.89	1.31	0.82	0.58	0.49	0.48	0.51	0.66	0.96	1.52	2.11	2.63	2.82	2.78		
100	3.48	3.44	3.16	2.61	1.98	1.38	1.03	0.87	0.86	0.92	1.14	1.58	2.24	2.87	3.38	3.60	3.55		
105	3.83	3.75	3.46	2.97	2.40	1.80	1.39	1.21	1.19	1.26	1.53	2.02	2.66	3.23	3.67	3.90	3.90		
110	4.25	4.14	3.81	3.38	2.92	2.39	1.96	1.74	1.73	1.81	2.13	2.63	3.19	3.63	4.02	4.28	4.28		
115	4.42	4.33	4.05	3.67	3.24	2.73	2.32	2.10	2.09	2.19	2.50	2.99	3.53	3.94	4.26	4.46	4.44		
120	4.60	4.55	4.33	4.05	3.68	3.22	2.86	2.64	2.63	2.74	3.08	3.53	4.05	4.44	4.66	4.69	4.54		
125	4.63	4.53	4.32	4.14	3.90	3.52	3.23	3.01	3.01	3.13	3.48	3.88	4.39	4.72	4.85	4.72	4.46		
130	4.66	4.41	4.20	4.12	4.05	3.89	3.69	3.53	3.55	3.68	4.01	4.38	4.80	5.11	5.07	4.69	4.24		
135	4.73	4.43	4.17	4.08	4.08	4.02	3.89	3.80	3.84	3.97	4.27	4.63	5.03	5.26	5.15	4.71	4.17		
140	4.71	4.51	4.25	4.13	4.13	4.09	4.08	4.07	4.16	4.30	4.55	4.85	5.21	5.29	5.08	4.62	4.06		
145	4.63	4.51	4.33	4.22	4.18	4.13	4.19	4.22	4.33	4.45	4.67	4.92	5.20	5.26	5.00	4.54	3.98		
150	4.52	4.46	4.36	4.27	4.24	4.19	4.32	4.40	4.50	4.60	4.76	4.92	5.08	5.06	4.81	4.41	3.92		
155	4.45	4.42	4.35	4.29	4.27	4.20	4.37	4.46	4.55	4.63	4.76	4.85	4.94	4.88	4.65	4.32	3.91		
160	4.38	4.40	4.37	4.34	4.32	4.21	4.38	4.46	4.55	4.60	4.67	4.71	4.71	4.61	4.44	4.19	3.89		
165	4.34	4.37	4.37	4.35	4.35	4.23	4.40	4.44	4.50	4.53	4.58	4.58	4.56	4.46	4.31	4.11	3.88		
170	4.26	4.28	4.31	4.31	4.33	4.18	4.36	4.36	4.38	4.38	4.40	4.38	4.34	4.22	4.07	3.93	3.79		
175	4.23	4.23	4.24	4.23	4.24	4.09	4.26	4.26	4.27	4.25	4.25	4.22	4.16	4.04	3.93	3.82	3.74		
180	4.15	4.12	4.10	4.07	4.06	3.87	4.02	3.99	3.99	3.96	3.95	3.90	3.86	3.79	3.74	3.68	3.65		

C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature:25 $\pm$ 1°CDEG

Operators:Fabian Loaiza

Test Date:2024-08-05

$\gamma$  Range: 0 - 180DEG

$\gamma$  Interval: 2.0DEG

Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10

Humidity:MAX:51.4-MIN:41.6%

Test Distance:7.080m [K=1.0000]

Remarks: ANEXO 24-0491-2-A RALED III 80 LED

Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm

Driver XITANIUM 100W 1.1A 0-10V Dimming

MOD LED 2X8 Z15 5050 4K SEOUL

# Photometric Data Table [cd]

G/C	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0
0.0	6681	6681	6681	6681	6681	6681	6681	6681	6681	6681
2.0	6682	6723	6760	6793	6820	6850	6867	6890	6897	6909
4.0	6682	6761	6831	6892	6951	7005	7044	7080	7099	7108
6.0	6683	6802	6909	7007	7111	7201	7279	7336	7372	7378
8.0	6683	6842	6992	7145	7303	7446	7566	7646	7698	7706
10.0	6680	6877	7083	7307	7531	7719	7862	7954	8002	8019
12.0	6681	6918	7191	7494	7782	7988	8107	8176	8195	8217
14.0	6688	6964	7313	7704	8025	8203	8265	8300	8288	8309
16.0	6698	7021	7468	7932	8238	8354	8353	8361	8339	8354
18.0	6703	7086	7640	8163	8413	8462	8421	8418	8393	8410
20.0	6713	7150	7833	8375	8564	8557	8502	8501	8501	8513
22.0	6733	7250	8047	8581	8710	8674	8642	8659	8666	8680
24.0	6756	7383	8285	8809	8906	8871	8853	8846	8825	8833
26.0	6818	7565	8574	9096	9182	9149	9146	9077	9029	9037
28.0	6917	7808	8941	9460	9548	9567	9466	9167	8912	8935
30.0	7046	8113	9402	9899	10061	9892	9322	8828	8510	8525
32.0	7201	8494	9929	10475	10403	9869	9066	8508	8156	8169
34.0	7373	8949	10548	10963	10596	9759	8851	8272	7927	7913
36.0	7582	9472	11158	11373	10709	9671	8718	8121	7791	7766
38.0	7812	10059	11734	11729	10787	9627	8650	8033	7691	7657
40.0	8125	10638	12296	12037	10867	9605	8566	7939	7616	7599
42.0	8538	11284	12804	12280	10997	9582	8450	7790	7522	7505
44.0	9072	12002	13239	12530	11126	9520	8277	7604	7348	7468
46.0	9831	12672	13500	12844	11255	9388	8031	7351	7102	6865
48.0	10057	12612	13760	13185	11266	9181	7750	7196	6701	6492
50.0	9442	12290	13840	13341	11166	8913	7473	6992	6398	6216
52.0	9246	12297	13999	13463	11014	8619	7222	6532	6013	5930
54.0	9302	12554	14327	13623	10790	8324	6956	6134	5641	5577
56.0	9464	12869	14714	13734	10502	8025	6605	5738	5177	5110
58.0	9640	13196	15106	13732	10174	7670	6114	5224	4597	4513
60.0	9815	13515	15473	13589	9832	7138	5428	4554	3916	3821
62.0	9977	13822	15780	13319	9440	6382	4590	3779	3175	3086
64.0	10109	14095	15951	13018	8843	5405	3708	2997	2434	2349
66.0	10158	14260	15922	12721	7884	4274	2897	2215	1624	1596
68.0	10125	14379	15608	12361	6598	3240	2193	1452	1255	1045
70.0	9951	14343	15010	11757	5261	2458	1538	998.4	885.4	880.5
72.0	9440	13900	14094	10773	3847	1677	1157	830.1	710.8	710.5
74.0	8321	12840	12817	9190	2531	1160	779.4	663.7	563.4	568.2
76.0	6612	10870	11088	7078	1845	901.0	608.7	513.5	439.6	445.2
78.0	4365	7731	8199	4548	1544	733.5	437.7	396.7	339.5	335.1
80.0	2291	4703	4732	2856	1358	555.1	311.9	289.9	249.8	250.5
82.0	1139	1686	1916	1169	955.6	377.6	213.4	183.4	169.0	166.0
84.0	637.4	655.6	1073	610.7	551.9	239.9	133.4	110.9	111.0	102.7
86.0	143.9	360.8	264.3	336.8	202.9	103.3	81.44	60.58	53.24	54.94
88.0	84.17	69.58	134.3	65.19	105.6	38.07	29.71	28.80	20.94	17.60
90.0	25.29	19.50	15.09	11.67	8.355	9.833	7.635	10.53	7.035	6.958
92.0	26.43	20.18	14.01	9.386	6.468	4.795	4.183	3.892	3.766	3.648
94.0	28.81	22.14	15.44	10.40	7.214	5.353	4.632	4.244	4.144	3.986
96.0	31.21	24.17	16.97	11.49	8.003	5.972	5.143	4.730	4.646	4.514
98.0	33.59	26.16	18.52	12.62	8.810	6.604	5.683	5.250	5.154	5.037
100.0	35.78	28.10	20.02	13.72	9.604	7.245	6.242	5.747	5.646	5.556
102.0	37.75	29.92	21.43	14.79	10.41	7.888	6.790	6.234	6.135	6.093
104.0	39.48	31.60	22.78	15.81	11.20	8.510	7.299	6.711	6.656	6.626
106.0	41.08	33.16	24.01	16.77	11.97	9.095	7.800	7.192	7.158	7.144
108.0	42.50	34.50	25.07	17.56	12.64	9.648	8.324	7.679	7.661	7.658
110.0	43.61	35.59	25.97	18.31	13.30	10.24	8.846	8.182	8.185	8.178
112.0	44.46	36.44	26.81	19.07	13.99	10.87	9.360	8.700	8.724	8.712
114.0	45.16	37.18	27.61	19.85	14.74	11.52	9.851	9.225	9.258	9.245
116.0	45.79	37.92	28.47	20.71	15.53	12.16	10.35	9.738	9.771	9.757
118.0	46.43	38.70	29.37	21.64	16.35	12.78	10.86	10.26	10.28	10.27
120.0	46.99	39.42	30.25	22.57	17.15	13.38	11.37	10.77	10.78	10.77
122.0	47.36	40.04	31.06	23.41	17.93	13.99	11.89	11.30	11.27	11.25
124.0	47.47	40.48	31.78	24.18	18.62	14.61	12.41	11.84	11.75	11.71
126.0	47.35	40.72	32.35	24.88	19.28	15.22	12.98	12.35	12.22	12.17
128.0	46.97	40.75	32.79	25.49	19.92	15.83	13.60	12.88	12.68	12.61
130.0	46.46	40.68	33.13	26.03	20.49	16.46	14.27	13.42	13.14	13.04
132.0	45.77	40.45	33.38	26.52	21.04	17.11	14.96	13.95	13.59	13.45
134.0	45.14	40.20	33.56	26.95	21.61	17.81	15.63	14.52	14.06	13.85
136.0	44.48	39.90	33.68	27.36	22.22	18.51	16.34	15.11	14.56	14.28
138.0	43.85	39.59	33.80	27.85	22.92	19.24	17.08	15.75	15.10	14.74
140.0	43.24	39.30	33.95	28.34	23.62	19.99	17.84	16.44	15.71	15.28
142.0	42.61	39.01	34.10	28.92	24.36	20.81	18.63	17.22	16.41	15.90
144.0	42.04	38.78	34.35	29.48	25.13	21.65	19.46	18.06	17.19	16.65
146.0	41.63	38.66	34.60	30.04	25.94	22.57	20.31	18.95	18.03	17.52

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°CDEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## Photometric Data Table [cd]

148.0	41.29	38.57	34.86	30.63	26.79	23.54	21.15	19.90	18.95	18.46
150.0	41.00	38.56	35.13	31.26	27.67	24.55	21.95	20.92	19.94	19.49
152.0	40.74	38.59	35.47	31.90	28.54	25.57	22.80	21.99	21.03	20.59
154.0	40.70	38.68	35.83	32.55	29.39	26.57	23.68	23.15	22.20	21.77
156.0	40.67	38.79	36.17	33.16	30.19	27.57	24.63	24.38	23.47	23.00
158.0	40.61	38.88	36.47	33.74	31.00	28.59	25.63	25.66	24.77	24.28
160.0	40.49	38.92	36.74	34.30	31.82	29.66	26.71	26.96	26.11	25.65
162.0	40.35	38.97	37.02	34.87	32.66	30.74	27.82	28.30	27.50	27.07
164.0	40.27	39.06	37.36	35.47	33.54	31.86	28.98	29.68	28.91	28.53
166.0	40.25	39.24	37.78	36.10	34.47	33.01	30.14	31.00	30.33	30.01
168.0	40.32	39.51	38.27	36.76	35.41	34.15	31.34	32.37	31.80	31.42
170.0	40.55	39.87	38.78	37.45	36.36	35.29	32.55	33.78	33.24	32.86
172.0	40.85	40.29	39.24	38.18	37.28	36.41	33.80	35.18	34.66	34.27
174.0	41.10	40.56	39.68	38.90	38.14	37.51	35.07	36.55	36.07	35.69
176.0	41.24	40.85	40.14	39.60	39.02	38.55	36.30	37.85	37.40	37.07
178.0	41.39	41.15	40.66	40.30	39.85	39.59	37.53	39.08	38.67	38.48
180.0	41.58	41.50	41.19	41.00	40.69	40.56	38.70	40.22	39.87	39.85
G/C	100.0	110.0	120.0	130.0	140.0	150.0	160.0	170.0	180.0	190.0
0.0	6681	6681	6681	6681	6681	6681	6681	6681	6681	6681
2.0	6903	6907	6889	6877	6846	6819	6777	6730	6681	6636
4.0	7098	7085	7051	7023	6975	6928	6856	6774	6677	6583
6.0	7357	7315	7254	7181	7096	7020	6925	6814	6672	6522
8.0	7682	7613	7514	7384	7243	7115	6985	6848	6663	6459
10.0	7997	7934	7814	7639	7432	7224	7041	6874	6650	6386
12.0	8206	8187	8090	7912	7650	7359	7098	6895	6634	6312
14.0	8304	8331	8290	8165	7897	7528	7177	6916	6622	6250
16.0	8356	8402	8407	8372	8151	7732	7276	6943	6616	6187
18.0	8407	8451	8479	8524	8379	7960	7396	6971	6607	6126
20.0	8504	8526	8554	8639	8582	8200	7545	7003	6598	6068
22.0	8677	8673	8676	8763	8775	8451	7732	7052	6608	6009
24.0	8850	8883	8898	8947	9000	8727	7971	7145	6624	5947
26.0	9089	9166	9220	9225	9287	9039	8244	7277	6671	5902
28.0	9020	9387	9659	9641	9660	9427	8605	7465	6751	5875
30.0	8645	9120	9664	10115	10182	9914	9059	7715	6860	5867
32.0	8315	8835	9485	10237	10670	10521	9612	8046	7007	5874
34.0	8076	8594	9318	10260	10982	11153	10246	8440	7172	5889
36.0	7938	8434	9185	10228	11227	11673	10932	8880	7362	5914
38.0	7843	8339	9110	10204	11396	12172	11590	9408	7585	5969
40.0	7750	8240	9038	10216	11508	12630	12263	10003	7828	6041
42.0	7643	8089	8936	10228	11642	12950	12921	10626	8168	6157
44.0	7445	7899	8794	10222	11807	13234	13489	11356	8639	6367
46.0	7241	7676	8579	10163	12021	13528	13794	12260	9293	6734
48.0	6981	7472	8293	10008	12136	13909	13968	12527	9926	7260
50.0	6567	7323	7997	9757	12095	14109	14024	12015	9293	6889
52.0	6190	6971	7739	9479	11995	14262	14086	11835	8926	6579
54.0	5798	6508	7449	9188	11842	14544	14421	12048	8922	6528
56.0	5327	6048	7094	8874	11623	14800	14795	12329	9031	6547
58.0	4735	5510	6591	8487	11314	14979	15184	12616	9168	6578
60.0	4045	4839	5865	7974	10935	15020	15580	12915	9301	6622
62.0	3307	4058	5008	7209	10487	14862	15963	13236	9424	6687
64.0	2567	3264	4112	6187	9925	14518	16278	13562	9571	6686
66.0	1750	2495	3230	5037	9193	14010	16386	13841	9583	6822
68.0	1327	1728	2466	3924	8204	13440	16210	14032	9574	6668
70.0	905.6	1106	1746	2934	6930	12830	15713	14033	9436	6542
72.0	734.8	890.4	1146	1949	5371	12056	14812	13663	8985	6161
74.0	581.0	717.2	839.9	1351	3666	10782	13471	12718	8024	5463
76.0	453.6	558.6	676.1	1046	2404	8863	11747	10916	6355	4342
78.0	354.0	425.4	502.6	860.0	1875	6375	9422	8241	4425	3162
80.0	266.2	310.4	361.3	661.7	1658	3851	6043	4884	2852	1952
82.0	182.2	195.8	250.8	443.5	1281	1343	2728	2850	1291	1085
84.0	119.4	121.7	159.2	284.8	776.7	650.3	1050	828.0	580.3	456.7
86.0	56.81	67.22	126.2	270.6	371.7	378.7	378.7	460.0	323.9	159.1
88.0	22.60	32.04	35.45	47.29	141.6	95.87	104.5	92.40	70.07	90.31
90.0	8.024	12.21	10.73	14.24	13.81	20.69	21.04	28.90	25.27	24.13
92.0	3.605	3.882	4.189	4.633	5.911	8.036	12.20	17.47	20.82	23.95
94.0	4.020	4.133	4.451	5.094	6.570	9.044	13.53	19.43	23.46	26.84
96.0	4.535	4.613	4.950	5.681	7.370	10.13	15.06	21.48	26.12	29.70
98.0	5.056	5.132	5.457	6.261	8.145	11.23	16.61	23.53	28.69	32.40
100.0	5.571	5.644	5.995	6.840	8.889	12.30	18.09	25.53	31.01	34.76
102.0	6.092	6.160	6.526	7.424	9.601	13.29	19.46	27.39	33.11	36.65
104.0	6.609	6.651	7.044	8.007	10.31	14.21	20.73	29.02	34.90	38.28
106.0	7.113	7.133	7.563	8.590	11.00	15.10	21.90	30.52	36.48	39.83
108.0	7.614	7.614	8.081	9.170	11.68	15.94	23.00	31.87	37.95	41.27
110.0	8.129	8.112	8.589	9.747	12.34	16.72	24.00	33.03	39.22	42.47

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°CDEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

Photometric Data Table [cd]

112.0	8.654	8.613	9.095	10.36	13.03	17.49	24.89	33.99	40.15	43.44
114.0	9.171	9.116	9.574	10.99	13.75	18.27	25.73	34.77	40.90	44.24
116.0	9.672	9.594	10.06	11.59	14.50	19.09	26.54	35.48	41.58	44.92
118.0	10.16	10.08	10.52	12.13	15.22	19.88	27.33	36.08	42.34	45.56
120.0	10.64	10.57	10.98	12.65	15.83	20.58	27.93	36.46	43.10	46.02
122.0	11.11	11.05	11.42	13.13	16.33	21.13	28.28	36.50	43.75	46.26
124.0	11.56	11.51	11.85	13.59	16.76	21.52	28.38	36.28	44.27	46.28
126.0	12.00	11.96	12.34	14.03	17.19	21.80	28.37	35.81	44.70	46.22
128.0	12.43	12.41	12.84	14.50	17.58	22.01	28.24	35.22	45.19	46.27
130.0	12.84	12.85	13.37	15.00	17.96	22.20	28.03	34.53	45.76	46.59
132.0	13.23	13.29	13.89	15.54	18.38	22.39	27.84	33.79	46.31	47.00
134.0	13.61	13.71	14.42	16.11	18.85	22.62	27.64	33.11	46.68	47.32
136.0	14.02	14.16	14.97	16.72	19.39	22.89	27.49	32.52	46.77	47.42
138.0	14.47	14.65	15.55	17.35	19.95	23.22	27.42	32.02	46.66	47.35
140.0	15.00	15.21	16.17	17.97	20.51	23.58	27.39	31.53	46.37	47.12
142.0	15.62	15.83	16.84	18.60	21.05	23.97	27.38	31.10	45.88	46.72
144.0	16.37	16.59	17.57	19.26	21.58	24.34	27.42	30.75	45.34	46.31
146.0	17.21	17.47	18.39	19.96	22.08	24.70	27.49	30.52	44.95	45.95
148.0	18.18	18.44	19.27	20.71	22.66	25.05	27.60	30.35	44.52	45.55
150.0	19.25	19.50	20.22	21.52	23.27	25.41	27.72	30.32	44.11	45.17
152.0	20.38	20.60	21.25	22.38	23.96	25.87	27.95	30.34	43.71	44.74
154.0	21.55	21.77	22.32	23.31	24.71	26.41	28.32	30.55	43.45	44.47
156.0	22.76	22.97	23.43	24.27	25.48	27.01	28.80	30.93	43.26	44.27
158.0	24.02	24.20	24.58	25.25	26.25	27.63	29.30	31.33	43.07	44.04
160.0	25.36	25.48	25.74	26.24	27.06	28.24	29.80	31.71	42.90	43.85
162.0	26.75	26.78	26.94	27.27	27.91	28.92	30.30	32.07	42.77	43.67
164.0	28.18	28.11	28.11	28.33	28.85	29.68	30.88	32.45	42.58	43.35
166.0	29.63	29.41	29.30	29.42	29.85	30.52	31.51	32.88	42.42	43.06
168.0	31.06	30.75	30.52	30.56	30.90	31.45	32.23	33.37	42.26	42.80
170.0	32.45	32.10	31.81	31.77	32.02	32.43	33.00	33.93	42.19	42.59
172.0	33.83	33.49	33.17	33.04	33.16	33.45	33.81	34.53	42.19	42.45
174.0	35.21	34.94	34.60	34.38	34.31	34.44	34.59	35.10	42.10	42.28
176.0	36.66	36.45	36.06	35.74	35.44	35.38	35.26	35.50	41.90	42.01
178.0	38.14	37.99	37.56	37.19	36.64	36.40	35.99	36.00	41.72	41.75
180.0	39.56	39.49	39.02	38.60	37.83	37.37	36.71	36.50	41.63	41.51
G/C	200.0	210.0	220.0	230.0	240.0	250.0	260.0	270.0	280.0	290.0
0.0	6681	6681	6681	6681	6681	6681	6681	6681	6681	6681
2.0	6592	6537	6491	6441	6406	6364	6351	6326	6339	6342
4.0	6479	6356	6238	6110	6020	5919	5881	5832	5858	5877
6.0	6346	6129	5924	5699	5538	5371	5309	5242	5288	5328
8.0	6198	5873	5567	5249	5017	4806	4719	4651	4698	4758
10.0	6029	5597	5191	4795	4524	4306	4220	4168	4210	4279
12.0	5856	5314	4820	4387	4121	3934	3855	3814	3854	3927
14.0	5689	5037	4476	4056	3816	3643	3564	3534	3570	3647
16.0	5528	4773	4185	3794	3561	3410	3359	3352	3370	3429
18.0	5358	4521	3934	3564	3352	3261	3221	3216	3232	3288
20.0	5180	4288	3719	3364	3215	3136	3097	3095	3108	3160
22.0	5007	4076	3526	3222	3096	3018	2977	2978	2988	3043
24.0	4837	3882	3349	3103	2986	2902	2865	2871	2876	2925
26.0	4661	3700	3199	2996	2873	2792	2764	2773	2776	2820
28.0	4497	3527	3076	2883	2766	2698	2680	2689	2692	2726
30.0	4353	3373	2964	2773	2669	2620	2605	2615	2618	2650
32.0	4239	3242	2859	2674	2588	2549	2529	2538	2544	2579
34.0	4150	3137	2772	2592	2506	2478	2455	2458	2468	2507
36.0	4080	3059	2701	2523	2438	2409	2381	2379	2394	2433
38.0	4030	3007	2647	2460	2366	2348	2316	2305	2328	2366
40.0	4001	2971	2601	2397	2295	2298	2253	2243	2259	2317
42.0	3989	2935	2557	2329	2235	2246	2196	2203	2205	2262
44.0	4013	2907	2515	2267	2185	2181	2163	2179	2173	2207
46.0	4118	2914	2482	2221	2158	2149	2159	2192	2176	2188
48.0	4399	3013	2465	2196	2173	2183	2184	2221	2206	2229
50.0	4337	3229	2477	2196	2254	2219	2197	2230	2217	2262
52.0	3921	2918	2455	2224	2324	2234	2193	2218	2199	2265
54.0	3800	2627	2430	2285	2360	2200	2127	2138	2109	2215
56.0	3782	2475	2165	2281	2339	2185	2041	2029	2012	2180
58.0	3803	2358	2018	2018	2303	2194	1961	1911	1919	2180
60.0	3844	2263	1876	1824	2201	2019	1801	1772	1781	2056
62.0	3917	2193	1750	1666	1935	1757	1583	1577	1583	1803
64.0	4018	2144	1628	1524	1667	1527	1396	1393	1399	1562
66.0	4092	2122	1522	1387	1471	1341	1233	1230	1234	1361
68.0	4134	2058	1420	1248	1289	1187	1092	1094	1089	1188
70.0	4158	2032	1302	1084	1106	1045	969.6	958.1	962.7	1045
72.0	4083	2011	1182	920.0	941.3	903.4	848.4	841.9	843.0	902.9
74.0	3744	1937	1075	770.9	794.4	780.0	683.3	655.3	688.0	784.9

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°CDEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

Photometric Data Table [cd]

76.0	2874	1556	972.2	632.3	658.6	599.0	500.8	462.6	502.5	618.4
78.0	2003	1107	822.3	504.1	521.5	424.7	352.7	329.4	355.3	439.1
80.0	1072	657.3	588.0	361.3	368.5	289.3	252.5	224.5	254.3	293.2
82.0	498.5	393.5	380.5	240.4	239.8	185.3	152.5	144.3	153.4	188.9
84.0	297.3	187.1	173.9	126.5	111.6	113.6	86.26	90.74	86.24	115.2
86.0	97.88	113.3	83.54	53.52	50.41	42.32	39.17	37.28	38.82	41.78
88.0	48.68	40.65	34.67	23.91	20.87	16.02	13.58	12.86	13.15	15.79
90.0	23.91	19.41	14.47	9.288	5.385	3.984	3.450	3.431	3.636	4.420
92.0	23.62	21.25	16.23	10.97	6.635	4.744	3.931	3.820	4.222	5.401
94.0	26.56	24.14	18.85	13.12	8.217	5.838	4.854	4.774	5.132	6.602
96.0	29.49	26.97	21.51	15.35	9.917	7.177	5.991	5.903	6.311	8.038
98.0	32.21	29.51	23.95	17.60	11.79	8.691	7.291	7.206	7.666	9.658
100.0	34.40	31.58	26.13	19.85	13.77	10.30	8.741	8.641	9.191	11.44
102.0	36.04	33.21	28.05	22.01	15.86	12.08	10.35	10.20	10.82	13.36
104.0	37.46	34.55	29.68	23.99	17.97	13.92	12.05	11.87	12.57	15.34
106.0	38.80	35.82	31.16	25.81	20.04	15.81	13.81	13.65	14.41	17.34
108.0	40.14	37.00	32.49	27.51	22.02	17.72	15.63	15.46	16.25	19.32
110.0	41.35	38.10	33.79	29.19	23.87	19.59	17.43	17.28	18.14	21.26
112.0	42.37	39.24	35.18	30.84	25.63	21.41	19.26	19.08	20.03	23.14
114.0	43.30	40.49	36.70	32.45	27.30	23.16	21.04	20.88	21.87	24.99
116.0	44.22	41.76	38.20	33.98	28.93	24.95	22.81	22.66	23.69	26.86
118.0	44.98	42.77	39.54	35.46	30.59	26.79	24.58	24.46	25.56	28.81
120.0	45.45	43.34	40.48	36.83	32.22	28.64	26.38	26.29	27.43	30.79
122.0	45.49	43.46	41.09	38.02	33.77	30.49	28.21	28.16	29.34	32.81
124.0	45.28	43.23	41.37	38.99	35.25	32.27	30.07	30.06	31.27	34.79
126.0	44.91	42.83	41.39	39.77	36.66	33.95	31.91	31.94	33.18	36.66
128.0	44.50	42.38	41.34	40.26	37.90	35.55	33.66	33.79	35.03	38.43
130.0	44.15	42.01	41.18	40.48	38.92	36.89	35.25	35.48	36.78	40.07
132.0	44.10	41.74	40.99	40.66	39.66	38.00	36.71	37.06	38.32	41.52
134.0	44.29	41.70	40.76	40.82	40.16	38.91	37.97	38.43	39.75	42.74
136.0	44.58	41.84	40.69	40.97	40.48	39.69	39.07	39.63	40.98	43.80
138.0	44.88	42.10	40.96	41.14	40.69	40.31	39.97	40.66	42.05	44.70
140.0	45.06	42.47	41.33	41.28	40.85	40.83	40.75	41.58	42.97	45.49
142.0	45.12	42.92	41.77	41.51	41.06	41.34	41.48	42.43	43.77	46.14
144.0	45.10	43.30	42.17	41.76	41.30	41.89	42.21	43.29	44.51	46.72
146.0	45.01	43.57	42.40	42.02	41.56	42.42	42.91	43.98	45.12	47.17
148.0	44.82	43.62	42.55	42.20	41.73	42.85	43.50	44.53	45.61	47.44
150.0	44.58	43.56	42.67	42.37	41.85	43.19	43.97	45.02	46.01	47.58
152.0	44.33	43.53	42.79	42.51	41.98	43.47	44.31	45.35	46.28	47.64
154.0	44.21	43.53	42.92	42.66	42.03	43.67	44.57	45.54	46.32	47.58
156.0	44.18	43.60	43.07	42.80	42.07	43.76	44.65	45.64	46.29	47.35
158.0	44.12	43.67	43.22	42.99	42.09	43.79	44.64	45.63	46.18	47.05
160.0	44.03	43.74	43.40	43.22	42.14	43.84	44.59	45.52	45.96	46.70
162.0	43.93	43.82	43.57	43.51	42.28	43.98	44.58	45.35	45.70	46.34
164.0	43.65	43.70	43.52	43.54	42.26	43.99	44.39	44.99	45.26	45.77
166.0	43.36	43.51	43.43	43.55	42.21	43.99	44.19	44.67	44.81	45.19
168.0	43.07	43.31	43.28	43.46	42.07	43.89	43.97	44.30	44.35	44.62
170.0	42.81	43.07	43.07	43.25	41.80	43.62	43.62	43.85	43.81	43.97
172.0	42.56	42.77	42.79	42.93	41.42	43.25	43.22	43.35	43.21	43.31
174.0	42.28	42.39	42.35	42.45	40.89	42.64	42.62	42.74	42.53	42.54
176.0	41.93	41.97	41.86	41.89	40.25	41.89	41.80	41.89	41.68	41.65
178.0	41.58	41.52	41.33	41.29	39.57	41.10	40.89	40.93	40.70	40.64
180.0	41.23	41.01	40.73	40.58	38.73	40.22	39.91	39.86	39.58	39.50
G/C	300.0	310.0	320.0	330.0	340.0	350.0				
0.0	6681	6681	6681	6681	6681	6681				
2.0	6376	6406	6461	6509	6567	6625				
4.0	5964	6047	6178	6298	6435	6561				
6.0	5476	5621	5844	6056	6288	6499				
8.0	4948	5164	5482	5795	6134	6437				
10.0	4472	4724	5113	5525	5972	6372				
12.0	4104	4349	4760	5257	5811	6316				
14.0	3817	4056	4447	5001	5663	6272				
16.0	3574	3812	4183	4758	5521	6235				
18.0	3388	3592	3959	4527	5371	6200				
20.0	3257	3411	3760	4318	5215	6161				
22.0	3136	3280	3581	4126	5065	6123				
24.0	3021	3165	3414	3953	4916	6082				
26.0	2910	3055	3275	3780	4757	6056				
28.0	2804	2940	3150	3614	4610	6054				
30.0	2710	2832	3034	3464	4486	6071				
32.0	2628	2733	2929	3337	4382	6103				
34.0	2547	2651	2839	3232	4299	6133				
36.0	2478	2582	2768	3149	4234	6173				
38.0	2408	2521	2712	3086	4189	6230				

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°CDEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL

## Photometric Data Table [cd]

40.0	2334	2462	2667	3037	4151	6316
42.0	2268	2399	2630	2992	4135	6454
44.0	2220	2336	2585	2962	4152	6727
46.0	2192	2286	2541	2970	4273	7178
48.0	2212	2251	2510	3068	4530	7578
50.0	2291	2236	2528	3201	4356	7116
52.0	2355	2256	2471	2871	4031	6894
54.0	2366	2327	2414	2610	3926	6863
56.0	2296	2250	2167	2453	3917	6900
58.0	2223	1980	2008	2340	3945	6956
60.0	2091	1773	1867	2254	4008	7021
62.0	1840	1618	1729	2196	4092	7138
64.0	1623	1479	1612	2151	4192	7297
66.0	1436	1346	1513	2124	4258	7233
68.0	1257	1215	1409	2079	4316	7145
70.0	1078	1056	1298	2054	4383	6965
72.0	919.5	897.2	1183	2047	4326	6435
74.0	776.7	755.8	1075	1909	3890	5461
76.0	642.2	619.7	971.8	1470	2964	4150
78.0	507.2	500.6	811.8	1036	2039	2740
80.0	343.7	361.0	546.9	602.4	1106	1646
82.0	224.1	241.1	350.7	329.0	491.1	993.1
84.0	105.2	119.4	156.2	149.4	286.0	343.6
86.0	47.50	48.89	74.52	92.48	83.01	113.5
88.0	19.86	23.01	30.88	35.67	42.93	46.04
90.0	6.334	10.67	15.69	20.50	22.49	22.41
92.0	7.886	12.81	18.30	23.22	25.14	24.88
94.0	9.641	15.17	21.15	26.25	28.18	27.78
96.0	11.52	17.60	23.96	29.20	31.14	30.62
98.0	13.58	20.04	26.51	31.77	33.81	33.24
100.0	15.75	22.41	28.74	33.80	35.95	35.50
102.0	17.98	24.62	30.66	35.38	37.54	37.35
104.0	20.23	26.62	32.26	36.74	38.98	38.97
106.0	22.37	28.42	33.70	38.02	40.36	40.48
108.0	24.42	30.13	35.01	39.16	41.65	41.78
110.0	26.33	31.86	36.31	40.23	42.79	42.83
112.0	28.12	33.59	37.79	41.32	43.74	43.69
114.0	29.90	35.30	39.44	42.55	44.58	44.36
116.0	31.65	37.03	41.13	43.89	45.50	44.94
118.0	33.47	38.76	42.79	45.28	46.32	45.34
120.0	35.27	40.47	44.41	46.57	46.89	45.43
122.0	37.08	42.21	45.92	47.65	47.20	45.16
124.0	38.79	43.89	47.20	48.52	47.20	44.58
126.0	40.57	45.49	48.42	49.18	47.12	43.86
128.0	42.26	46.88	49.78	49.86	46.97	43.08
130.0	43.79	48.04	51.08	50.68	46.94	42.36
132.0	45.16	49.17	51.99	51.32	47.08	41.92
134.0	46.28	50.27	52.55	51.54	47.07	41.67
136.0	47.12	51.14	52.65	51.53	46.91	41.36
138.0	47.86	51.76	52.84	51.20	46.62	41.00
140.0	48.46	52.06	52.85	50.77	46.23	40.62
142.0	48.92	52.09	52.76	50.44	45.73	40.17
144.0	49.25	51.97	52.58	50.02	45.36	39.84
146.0	49.38	51.72	52.09	49.54	44.98	39.57
148.0	49.34	51.35	51.39	48.85	44.56	39.32
150.0	49.16	50.84	50.59	48.08	44.12	39.21
152.0	48.87	50.19	49.74	47.26	43.63	39.13
154.0	48.52	49.41	48.83	46.49	43.16	39.08
156.0	48.10	48.59	47.90	45.72	42.72	39.03
158.0	47.61	47.83	46.96	44.99	42.30	38.98
160.0	47.07	47.11	46.10	44.37	41.93	38.94
162.0	46.53	46.42	45.43	43.85	41.67	38.89
164.0	45.85	45.61	44.64	43.10	41.09	38.84
166.0	45.15	44.84	43.84	42.29	40.46	38.48
168.0	44.48	44.13	43.03	41.48	39.86	38.17
170.0	43.77	43.35	42.21	40.73	39.31	37.92
172.0	43.01	42.52	41.37	40.05	38.78	37.71
174.0	42.17	41.59	40.43	39.26	38.20	37.39
176.0	41.21	40.63	39.53	38.57	37.66	37.10
178.0	40.18	39.67	38.69	37.97	37.18	36.85
180.0	39.04	38.60	37.86	37.37	36.75	36.49

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25±1°CDEG  
Operators: Fabian Loaiza  
Test Date: 2024-08-05

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.0.406.10  
Humidity: MAX: 51.4-MIN: 41.6%  
Test Distance: 7.080m [K=1.0000]  
Remarks: ANEXO 24-0491-2-A RALED III 80 LED  
Driver XITANIUM 180W 0.1-0.9A 0-10V Dimm  
Driver XITANIUM 100W 1.1A 0-10V Dimming  
MOD LED 2X8 Z15 5050 4K SEOUL