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Test Report

Manufacturer	OxyTech
Sample Description	1234.5678
Report Issue Date	14-4-2023
Photometric Test Code	1234.5678



	
Stefano Borsani	Fabio Ragni
Laboratory Manager (DLAB)	Laboratory Technician

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Instrument Data

Instrumentation Data		
Instrument Type	Description	Registration Number
Custom	OxyTech T2	OX-048
Luxmeter	C&G Labolux - [lux]	OX-049
Wattmeter	Newtons Ppa 5530 - [W]	OX-031
Ammeter	Newtons Ppa 5530 - [A]	OX-031
Voltmeter	Newtons Ppa 5530 - [V]	OX-031
Anemometer	Delta Ohm HD2001.2 - [m/sec]	OX-083
Thermometer	Delta Ohm HD2001.2 - [°C]	OX-084
Spectrometer	Jeti 1201 Focus - [W/m2]+[W/m2*sr]	OX-030
PSU	Elettrotest TPS-M6000	OX-037



Electrical Test Parameters	
Source Type	via Mains
Supply Voltage	230 V $\pm$ 0.2%
Harmonic Distorsion	< 0,5%
Source Frequency	50 Hz $\pm$ 0.1%

Enviromental Conditions	
Laboratory Temperature	25°C $\pm$ 1°C
Relative Humidity	60%
Air movement	< 0,2 m/s

The data in this Report correspond to those collected in the manner mentioned above

This Report concerns only the sample under test

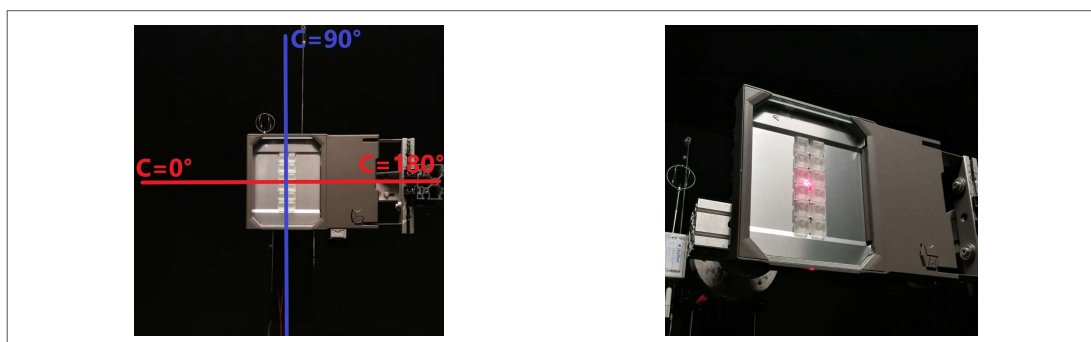
The extension of this Report to other specimens goes beyond the limits of the report itself

This Report was automatically generated with LITESTAR 4D Pv Report Plus

Measurement Data

Measurement Data	
Test Data	14-4-2023
Measurement Type	C-Gamma Double Symmetrical
Reference Standards	- EN 13032-4-2015 Light and lighting - Measurement and presentation of photometric data of lamps and luminaires 2015 - CIE S-025 2015 Test Method for LED Lamps, Luminaires and Modules 2015
Internal Reference	Procedura:PT1006a Istruzione:IS1006
Stabilization Time	45 min

Photometric References



Laboratory Uncertainties

Luminous Flux	< 2,5%
Color Coordinates x,y	x +-0.003 - y +-0.004
CCT	+/- 50 K
CRI	+/-2%

Test Data

Manufacturer Data	
Manufacturer	OxyTech
Address	Via G.B.Vico 54 / 56 - I - 20007 Cornaredo MI Italia EU

Test Sample (DUT) Data	
Product Name	EXTERNAL 123
Model	1234.5678
Pictures	
Dimensions [mm]	Length: 255 Width: 418 Height: 67
Luminous Area [mm]	Length: 255 Width: 220 Height: 0
Device Power Supply	230.08V 0.12A 27.49W 50.00Hz
LED Power Supply	0.00V 0.00A 0.00W 0.00Hz
Remarks	Power 27.49100 PF 0.96432

Luminaire

Code 1234.5678
Name EXTERNAL 123
Line EXTERNAL

Measurem.

Code 1234.5678
Name EXTERNAL 123

Source Data

Code	C234.5678	Correlated Color Temperature (CCT)	4056K	Q.ty	1
Name	EXTERNAL 123	Color rendering index (CRI)	82		
Line					

Measurement data

Coordinate system	CG	Symmetry Type	Double Symmetrical
Date	14-04-2023	Maximum Gamma Angle	90°
Measurement Distance	9.11m	Measurement Flux	3980.5 lm
Maximum	444.11 cd/klm	Position	C=40.0° G=22.0°
Remarks	Power 27.49100PF 0.96432		

Electrical Parameters

Channel 1		Channel 2	
Voltage	230.08 V	Voltage	0.00 V
Current	0.12 A	Current	0.00 A
Power	27.49 W	Power	0.00 W
Frequency	50 Hz	Frequency	0 Hz
Power Factor	0.96	Power Factor	0.00

Environmental Parameters

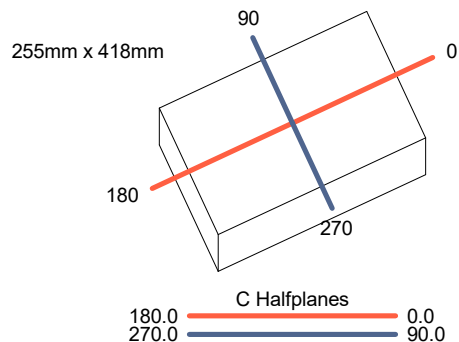
Temperature	24.7 °C	Air Speed	0.0 m/s
Humidity	30.7 %		

Luminaire Dimensions

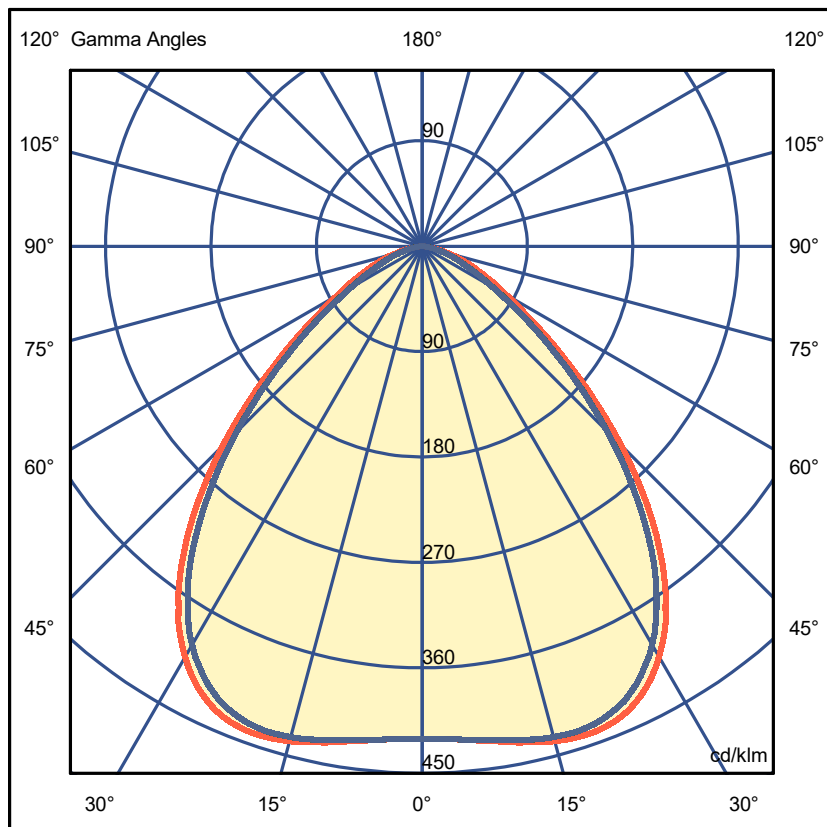
Rectangular Luminaire	Length	255 mm	Width	418 mm	Height	67 mm
Rectangular Luminous Area	Length	255 mm	Width	220 mm	Height	0 mm
Horizontal Luminous Area	0.056100 m2		Emitting area on Plane 180°	0.000000 m2		
Emitting area on Plane 0°	0.000000 m2		Emitting area on Plane 270°	0.000000 m2		
Emitting area on Plane 90°	0.000000 m2		Glare area at 76°	0.013572 m2		

Photometric Assessment

Luminaire Flux	3980.5 lm	Source Flux	3980.5 lm
Efficacy	144.798 lm/W	Efficiency	100.0 %
CIE Flux Codes	62 91 99 100 100	D DIN 5040	A50
F UTE	1.00 C	B NBN	BZ 3



ULOR 0.00 %
DLOR 100.00 %
RN 0.00 %



Luminaire

Code 1234.5678
Name EXTERNAL 123

Measurement

Code 1234.5678
Name EXTERNAL 123

Luminaire Flux	3981 lm	Luminaire Power	27.5 W	Efficacy	144.798 lm/W	Efficiency	100.00%
Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG	Double Symmetrical

Spectral Data

Std.: IES LM79 08

CIE1931 $x=0.377857$ $y=0.374637$
CIE1960 $u=0.224250$ $v=0.333508$
CIE1976 $u'=0.224250$ $v'=0.500262$
D(u,v) 0.00023
Delta(u',v') 0.17215

Relief distance = 3.00 m

Color rendering index (CRI)
Color Rendering Components

CCT = 4056 K

CRI8(Ra) 82.0

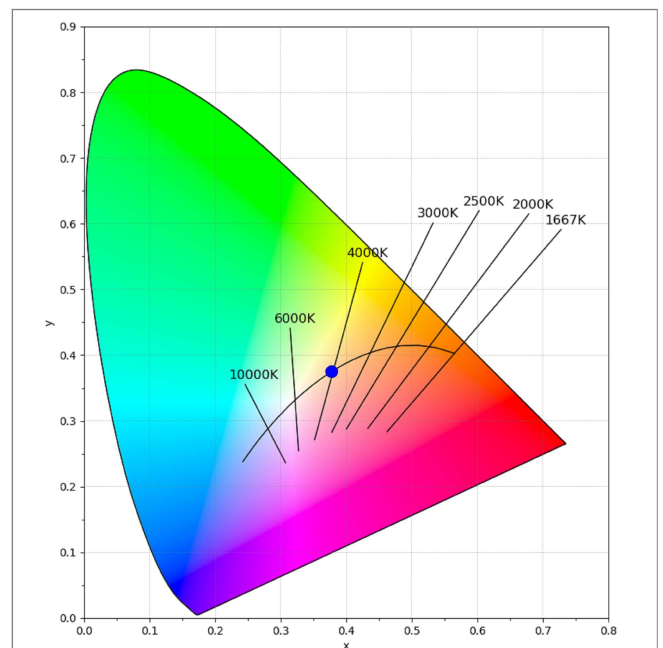
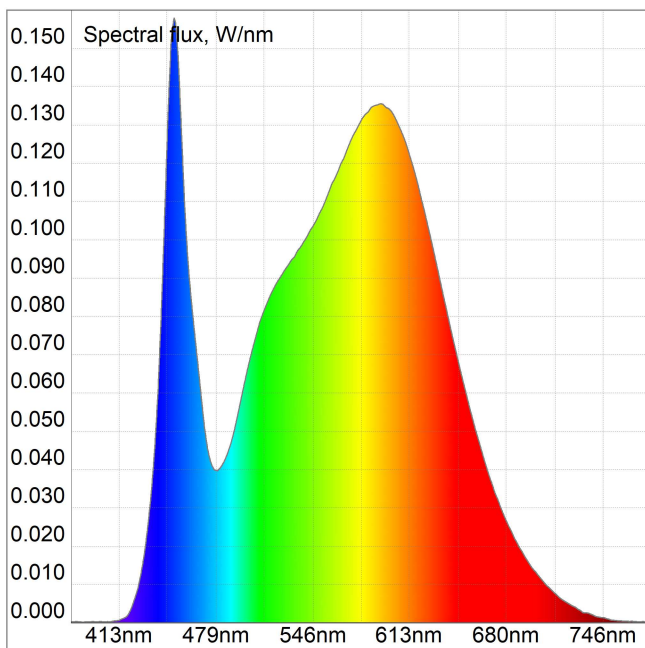
CRI15(Rav) 75.0

R 1: 80.2 R 2: 89.3 R 3: 95.1 R 4: 80.3 R 5: 80.4
R 6: 84.7 R 7: 84.6 R 8: 61.7 R 9: 1.5 R 10: 74.4
R 11: 79.1 R 12: 60.2 R 13: 82.6 R 14: 97.7 R 15: 73.5

Spectral Distribution

l(nm)	Spectral flux, W/nm	l(nm)	Spectral flux, W/nm	l(nm)	Spectral flux, W/nm
380.0	0.000237	386.0	0.000197	392.0	0.000222
398.0	0.000214	404.0	0.000232	410.0	0.000456
416.0	0.001124	422.0	0.004291	428.0	0.012462
434.0	0.029222	440.0	0.061053	446.0	0.123448
452.0	0.156775	458.0	0.111325	464.0	0.079910
470.0	0.058060	476.0	0.042311	482.0	0.040087
488.0	0.044367	494.0	0.052741	500.0	0.063376
506.0	0.072825	512.0	0.080515	518.0	0.085960
524.0	0.090096	530.0	0.093551	536.0	0.097064
542.0	0.100415	548.0	0.104352	554.0	0.108963
560.0	0.114789	566.0	0.119834	572.0	0.125140
578.0	0.129699	584.0	0.133112	590.0	0.135123
596.0	0.135038	602.0	0.132895	608.0	0.128074
614.0	0.121407	620.0	0.113189	626.0	0.103752
632.0	0.093697	638.0	0.083276	644.0	0.073151
650.0	0.063572	656.0	0.054544	662.0	0.046429
668.0	0.038768	674.0	0.032462	680.0	0.026737
686.0	0.021897	692.0	0.017926	698.0	0.014299
704.0	0.011512	710.0	0.009025	716.0	0.006887
722.0	0.005233	728.0	0.004010	734.0	0.002543
740.0	0.001966	746.0	0.001303	752.0	0.000714
758.0	0.000454	764.0	0.000347	770.0	0.000258
776.0	0.000216				

Spectrum Graph



Luminaire

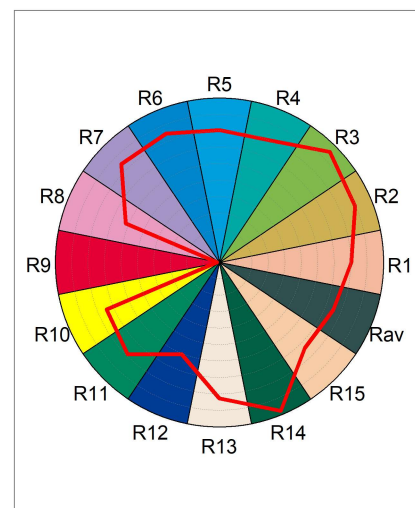
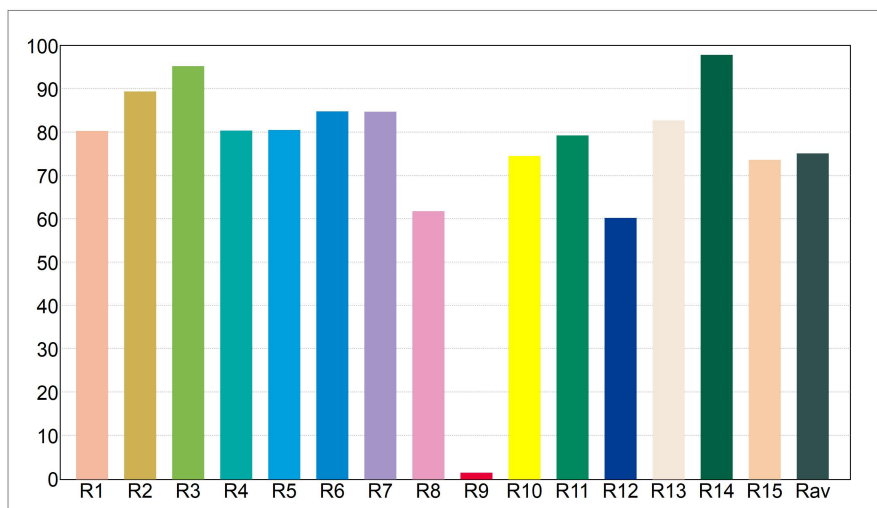
Code 1234.5678
Name EXTERNAL 123

Measurem.

Code 1234.5678
Name EXTERNAL 123

Luminaire Flux	3981 lm	Luminaire Power	27.5 W	Efficacy	144.798 lm/W	Efficiency	100.00%
Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG	Double Symmetrical

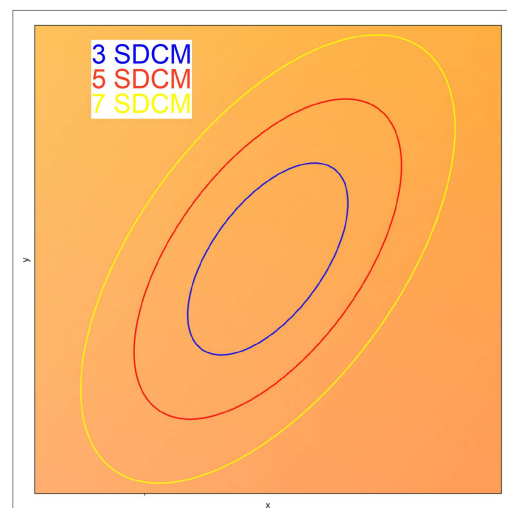
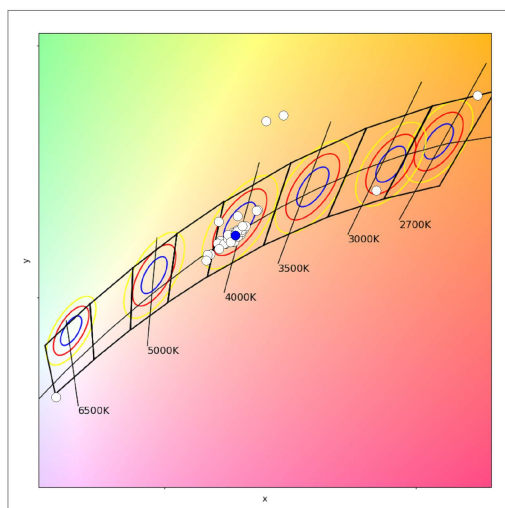
CRI Graphs



McAdam's Diagram

Analisi di MacAdams
ANSI C78-376

- Step 3: 0 / 76
- Step 5: 0 / 76
- Step 7: 0 / 76
- Step outside: 76 / 76
- Int. Spec. in 4-step: NO
- 95% in 5-step: NO



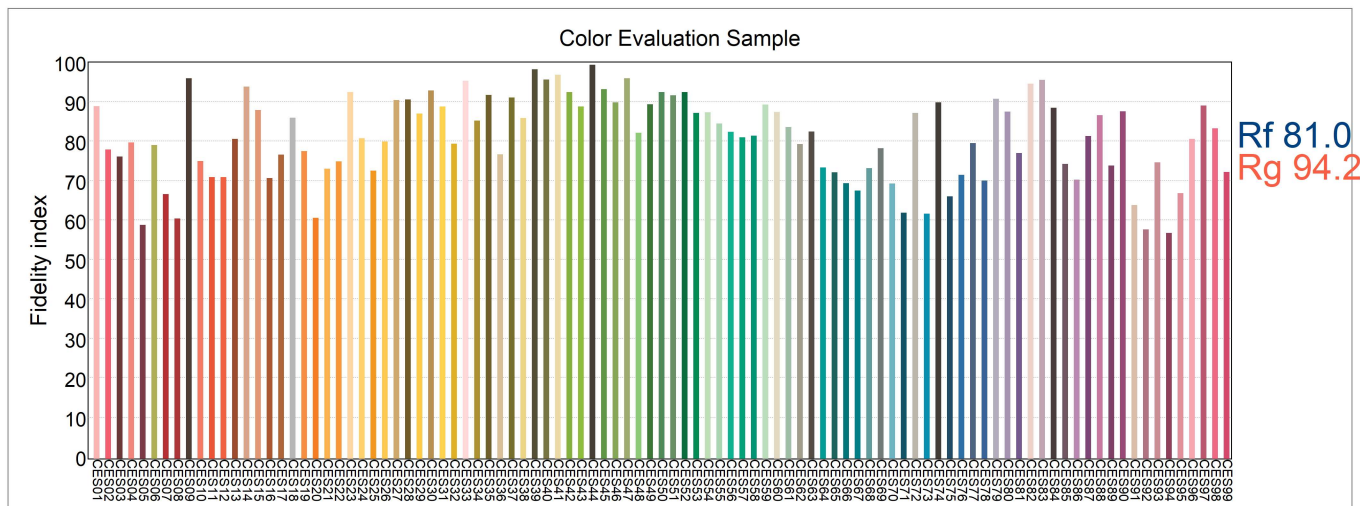
Luminaire

Code 1234.5678
Name EXTERNAL 123

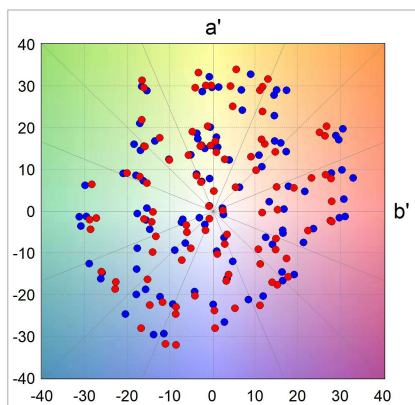
Measurement

Code 1234.5678
Name EXTERNAL 123

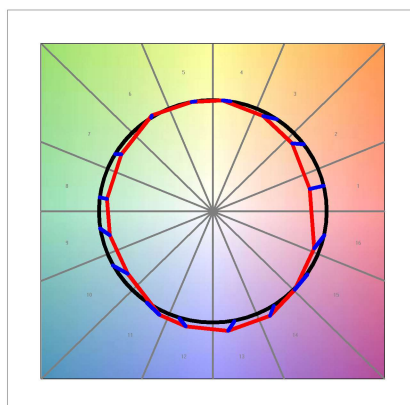
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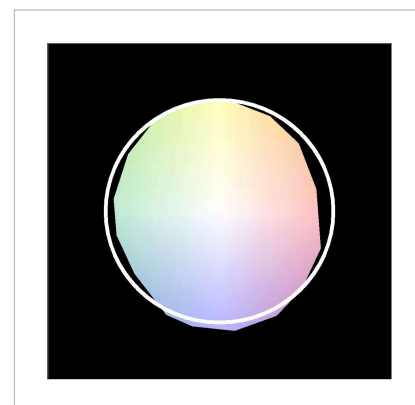
Chromatic Coordinates (a', b') 99 CES



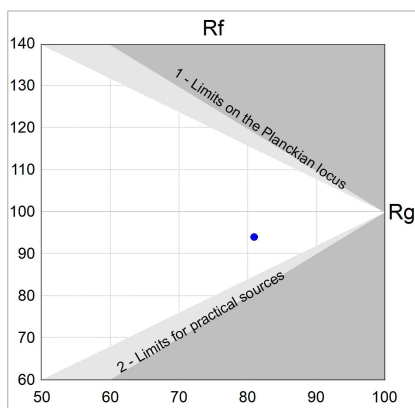
Color Vector Graphic



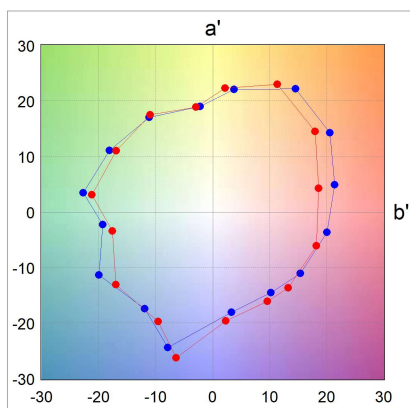
Color Distorsion Graphic



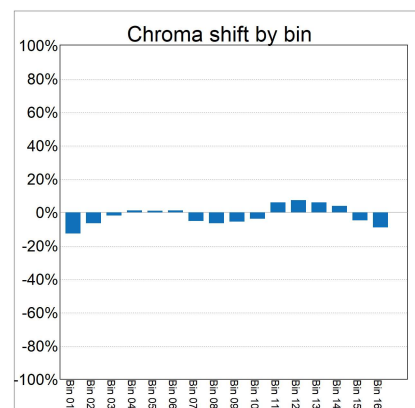
Rg vs Rf Plot



Gamut Polygon



Bin Deviation



Luminaire

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Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG	Double Symmetrical

Standard	UE 20192015
Produttore	
Total Flux	3980.5 lm
Angolo del Fascio Originale	0.00°
	Non Directional
Flusso Luminoso Utile	3612.9 lm
Potenza Caratteristica	27.5 W
	On mains (MLS)
Indice di Efficienza Energetica	154.6
Tipo Sorgente	LFL_T5_HE
	None
eta=98.9 lm/W L=1.9 W C=1.23	
Ponmax = 55.75	



PASS



ENERGY

OxyTech

1234.5678

A

B

C

D

E

F

G

D

27.5

kWh/1000h

Luminaire

Code 1234.5678
Name EXTERNAL 123

Measurem.

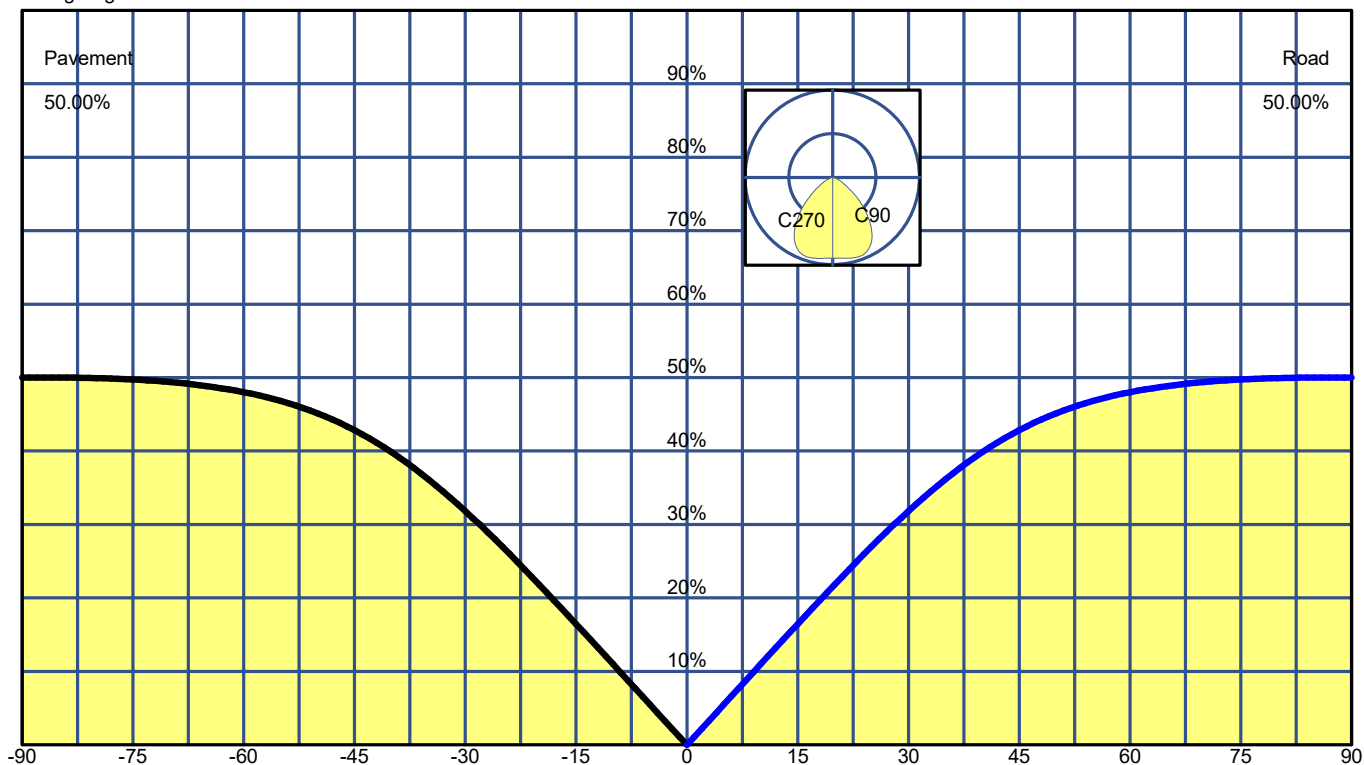
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Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG	Double Symmetrical

Pavement			Road		
Angle	0	0.00%	Angle	0	0.00%
Angle	-5	5.49%	Angle	5	5.49%
Angle	-10	10.98%	Angle	10	10.98%
Angle	-15	16.44%	Angle	15	16.44%
Angle	-20	21.81%	Angle	20	21.81%
Angle	-25	26.99%	Angle	25	26.99%
Angle	-30	31.82%	Angle	30	31.82%
Angle	-35	36.15%	Angle	35	36.15%
Angle	-40	39.84%	Angle	40	39.84%
Angle	-45	42.83%	Angle	45	42.83%
Angle	-50	45.13%	Angle	50	45.13%
Angle	-55	46.82%	Angle	55	46.82%
Angle	-60	48.01%	Angle	60	48.01%
Angle	-65	48.83%	Angle	65	48.83%
Angle	-70	49.39%	Angle	70	49.39%
Angle	-75	49.75%	Angle	75	49.75%
Angle	-80	49.93%	Angle	80	49.93%
Angle	-85	49.99%	Angle	85	49.99%
Angle	-90	50.00%	Angle	90	50.00%

Tilting Angle = 0.0

DLOR = 100.00%



Spread	29.1° Narrow	DLOR	100.00000 %
Throw	17.0° Short	ULOR	0.00000 %
SLI	7.9 Tight	Efficiency	100.00000 %
CIE Cutoff	Cutoff - Max: C=40.0° Gamma=22.0°	RN	0.00000 %
Iesna Cutoff	Cutoff	Luminous Intensity Class	G*6
DIN5044	KB1	Glare Index	D6
IESNA Type VS Very Short Quadrilateral Symmetry			

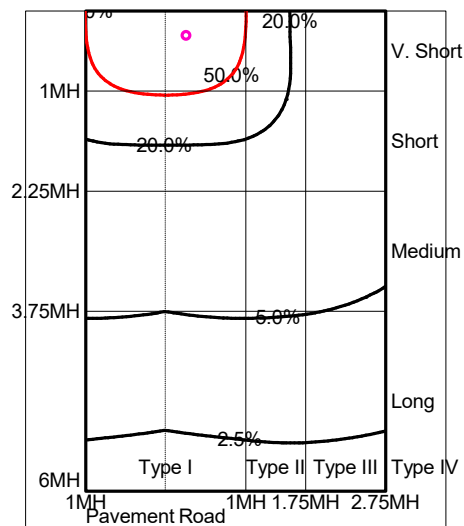
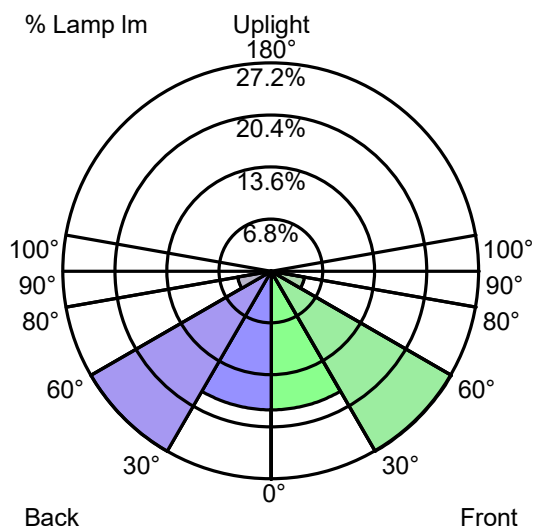
Luminaire

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Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG	Double Symmetrical

US ROAD STANDARDS


Luminaire Classification System (LCS)				
LCS Zone		Lumens	%Lamp	%Lum
FL	0° -- 30°	722.7 lm	18.2 %	18.2 %
FM	30° -- 60°	1083.8 lm	27.2 %	27.2 %
FH	60° -- 80°	176.9 lm	4.4 %	4.4 %
FVH	80° -- 90°	6.9 lm	0.2 %	0.2 %
BL	0° -- 30°	722.7 lm	18.2 %	18.2 %
BM	30° -- 60°	1083.8 lm	27.2 %	27.2 %
BH	60° -- 80°	176.9 lm	4.4 %	4.4 %
BVH	80° -- 90°	6.9 lm	0.2 %	0.2 %
UL	90° -- 100°	0.0 lm	0.0 %	0.0 %
UH	100° -- 180°	0.0 lm	0.0 %	0.0 %
TOTALS		3980.5 lm	100.0 %	100.0 %
BUG B2 U0 G0 Type VS Very Short Quadrilateral Symmetry				

Luminaire

Code 1234.5678
Name EXTERNAL 123

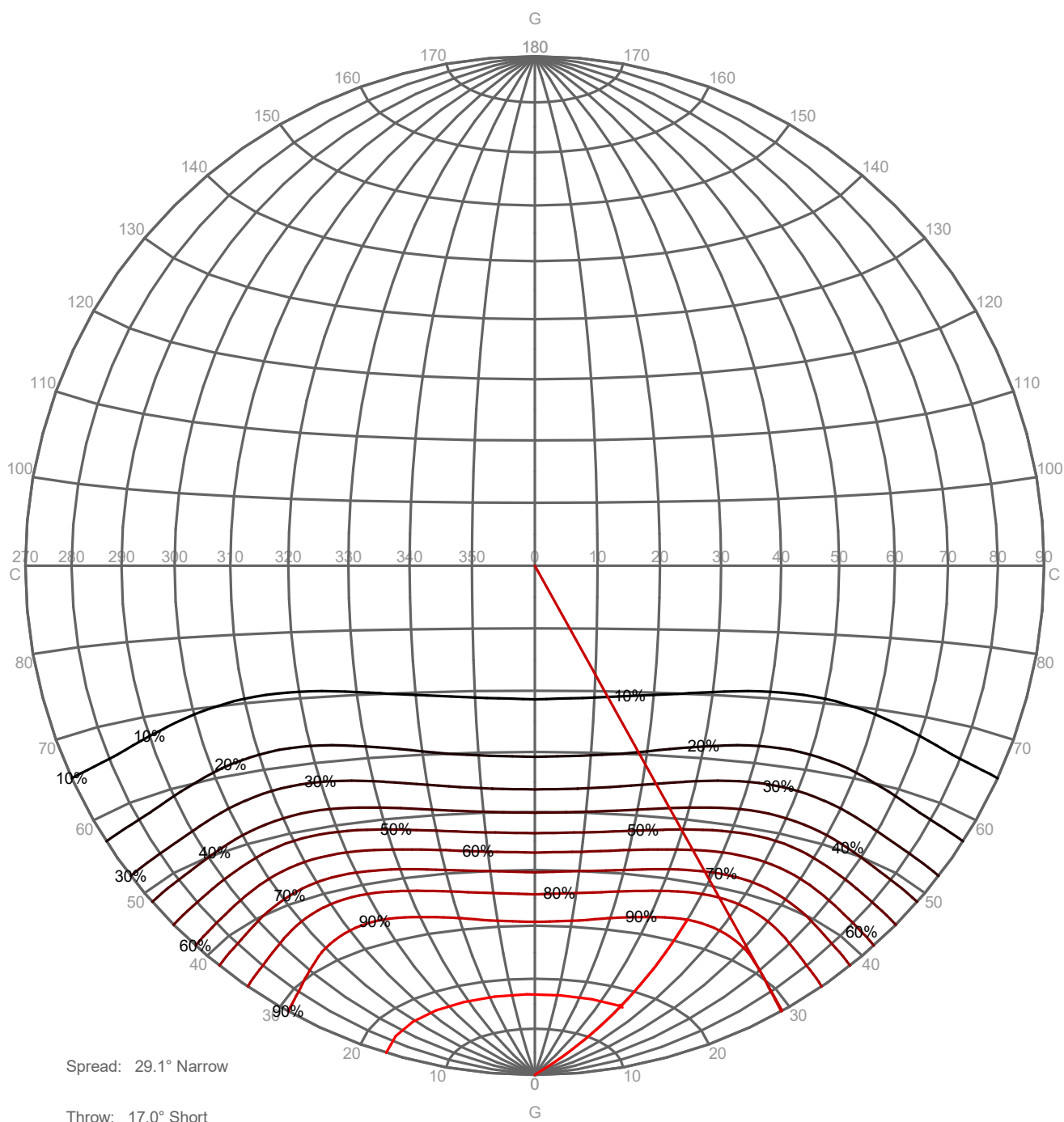
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Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG Double Symmetrical	

PERCENTAGE ISOCANDLES

Projection: Equal Area SLI 7.9 Tight Tilting Angle:0°



Luminaire

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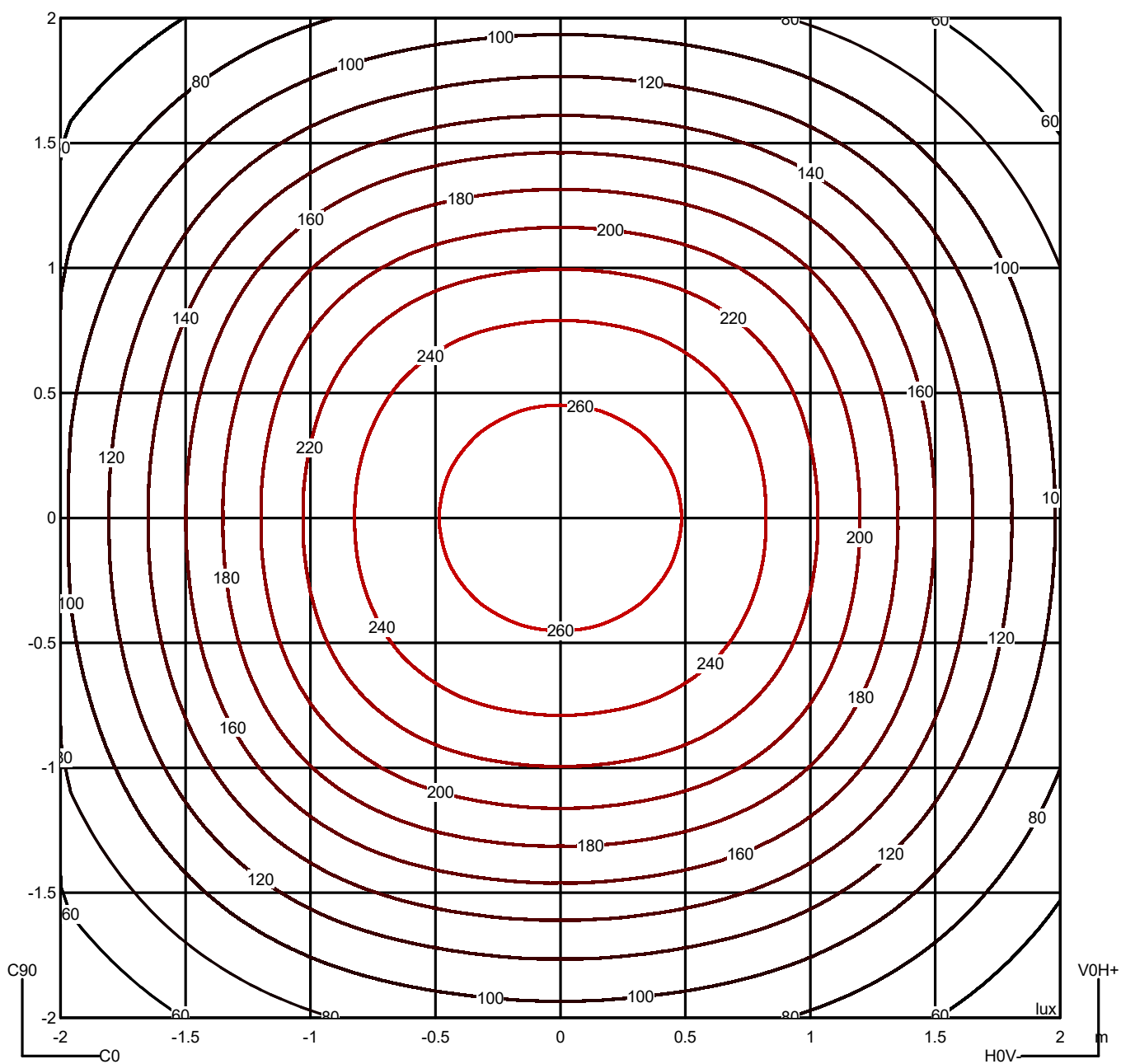
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Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG Double Symmetrical	

Isolux (Floor)

Luminaire position X=0.00m Y=0.00m Z=2.50m



Luminaire

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Luminaire Flux	3981 lm	Luminaire Power		27.5 W		Efficacy		144.798 lm/W		Efficiency		100.00%
Source Flux	3981 lm	Maximum value		444.11 cd/klm		Position		C=40.00 G=22.00		CG	Double Symmetrical	
Luminous Intensity Table cd/klm Table 1/2												
	C 0.00	C 10.00	C 20.00	C 30.00	C 40.00	C 50.00	C 60.00	C 70.00	C 80.00	C 90.00		
G 0.0	421	421	421	421	421	421	421	421	421	421		
G 1.0	421	421	421	421	421	421	421	421	421	421		
G 2.0	421	421	421	421	421	421	421	421	421	421		
G 3.0	421	422	422	422	421	421	422	422	421	422		
G 4.0	422	422	422	422	422	422	422	422	422	422		
G 5.0	423	423	423	423	423	423	423	423	423	423		
G 6.0	424	424	424	424	424	424	424	424	424	424		
G 7.0	425	425	425	425	425	425	425	425	425	425		
G 8.0	427	427	427	427	426	426	426	426	426	426		
G 9.0	428	428	428	428	428	427	427	427	427	427		
G 10.0	430	430	430	430	429	429	429	428	428	428		
G 11.0	432	431	431	431	431	430	430	430	429	429		
G 12.0	433	433	433	433	432	432	432	431	431	431		
G 13.0	435	435	435	434	434	434	433	433	432	432		
G 14.0	436	436	436	436	436	435	435	434	433	433		
G 15.0	437	437	438	438	437	437	436	435	434	434		
G 16.0	438	439	439	439	439	438	437	436	435	434		
G 17.0	439	440	440	440	441	440	438	437	435	435		
G 18.0	440	440	441	442	442	441	439	437	435	435		
G 19.0	440	441	442	443	443	442	440	437	435	434		
G 20.0	440	441	442	443	444	442	440	437	434	433		
G 21.0	439	440	442	444	444	443	440	436	433	432		
G 22.0	438	439	441	443	444	443	439	435	431	430		
G 23.0	436	437	440	443	444	442	438	433	429	428		
G 24.0	434	435	438	442	443	441	437	431	426	425		
G 25.0	431	432	436	440	442	439	434	428	423	421		
G 26.0	426	429	433	437	439	437	432	424	419	416		
G 27.0	422	424	429	434	437	434	429	420	414	412		
G 28.0	417	419	425	431	434	431	424	416	409	406		
G 29.0	411	414	420	426	430	427	420	410	402	400		
G 30.0	405	407	414	421	425	422	414	404	395	393		
G 31.0	398	401	408	415	420	417	408	397	388	385		
G 32.0	390	393	400	409	413	411	402	390	380	377		
G 33.0	382	385	392	401	407	404	394	381	371	368		
G 34.0	372	376	383	393	398	396	386	372	362	358		
G 35.0	363	366	374	384	390	387	377	363	352	348		
G 36.0	352	356	365	375	380	378	367	352	341	337		
G 37.0	342	345	354	364	371	368	357	341	330	326		
G 38.0	330	334	343	353	360	357	346	330	318	314		
G 39.0	319	322	331	342	349	347	335	318	306	301		
G 40.0	306	310	319	331	337	335	323	306	294	289		
G 41.0	293	297	306	317	325	323	310	292	280	276		
G 42.0	281	284	294	305	312	310	297	281	268	263		
G 43.0	268	271	281	292	299	298	284	267	255	251		
G 44.0	253	257	268	279	287	285	272	254	241	237		
G 45.0	241	244	254	266	274	271	258	241	229	224		
G 46.0	227	231	240	252	260	258	244	228	216	211		
G 47.0	214	217	227	239	247	245	232	215	202	198		
G 48.0	200	204	214	226	234	232	219	202	190	185		
G 49.0	188	191	201	213	221	219	206	189	177	172		
G 50.0	176	180	189	201	209	207	194	177	165	162		
G 51.0	163	167	176	189	196	194	182	165	153	148		
G 52.0	152	155	165	177	185	182	170	153	142	138		
G 53.0	141	144	154	166	174	171	159	143	131	127		
G 54.0	131	134	143	155	163	160	148	132	121	118		
G 55.0	121	125	133	145	152	150	138	122	111	108		
G 56.0	113	116	124	136	142	140	128	113	102	99		
G 57.0	104	107	115	126	133	130	119	104	94	90		
G 58.0	97	100	107	117	124	122	111	96	86	83		
G 59.0	90	92	100	109	116	113	103	89	79	76		
G 60.0	83	86	92	102	108	105	95	82	73	70		
G 61.0	77	80	86	94	100	98	88	75	67	64		
G 62.0	73	74	80	88	93	91	81	69	61	59		
G 63.0	67	69	74	81	86	84	75	64	56	54		
G 64.0	63	64	69	75	80	78	69	59	52	49		
G 65.0	58	60	64	70	74	72	64	54	48	45		
G 66.0	54	55	59	65	68	66	59	50	44	42		
G 67.0	50	52	55	59	63	61	54	46	40	38		
G 68.0	46	48	51	55	58	56	50	42	37	35		
G 69.0	43	44	47	50	53	52	46	39	34	32		
G 70.0	40	41	43	46	49	47	41	35	31	29		
G 71.0	37	38	40	42	45	43	38	32	28	27		
G 72.0	33	34	36	39	40	39	35	29	26	24		

Luminaire

Code 1234.5678
Name EXTERNAL 123

Measurem.

Code 1234.5678
Name EXTERNAL 123

Luminaire Flux	3981 lm	Luminaire Power	27.5 W	Efficacy	144.798 lm/W	Efficiency	100.00%
Source Flux	3981 lm	Maximum value	444.11 cd/klm	Position	C=40.00 G=22.00	CG	Double Symmetrical

Luminous Intensity Table cd/klm Table 2/2

	C 0.00	C 10.00	C 20.00	C 30.00	C 40.00	C 50.00	C 60.00	C 70.00	C 80.00	C 90.00
G 73.0	29	31	33	35	37	35	31	27	23	22
G 74.0	26	27	30	32	33	32	28	24	21	19
G 75.0	22	24	26	28	30	29	25	21	19	17
G 76.0	20	21	23	25	26	25	22	19	16	15
G 77.0	17	18	20	22	23	22	20	17	14	13
G 78.0	14	15	17	18	20	19	17	14	12	11
G 79.0	12	12	14	15	17	16	14	12	10	9
G 80.0	9	10	11	12	13	14	12	10	8	7
G 81.0	7	8	9	10	11	11	10	8	7	6
G 82.0	5	6	7	7	8	8	8	6	5	4
G 83.0	3	4	4	5	6	6	6	5	4	3
G 84.0	2	2	3	3	3	4	4	3	3	2
G 85.0	1	2	2	2	2	2	2	2	2	1
G 86.0	0	1	1	1	1	1	1	1	1	1
G 87.0	0	0	0	0	0	0	0	0	0	0
G 88.0	0	0	0	0	0	0	0	0	0	0
G 89.0	0	0	0	0	0	0	0	0	0	0
G 90.0	0	0	0	0	0	0	0	0	0	0