

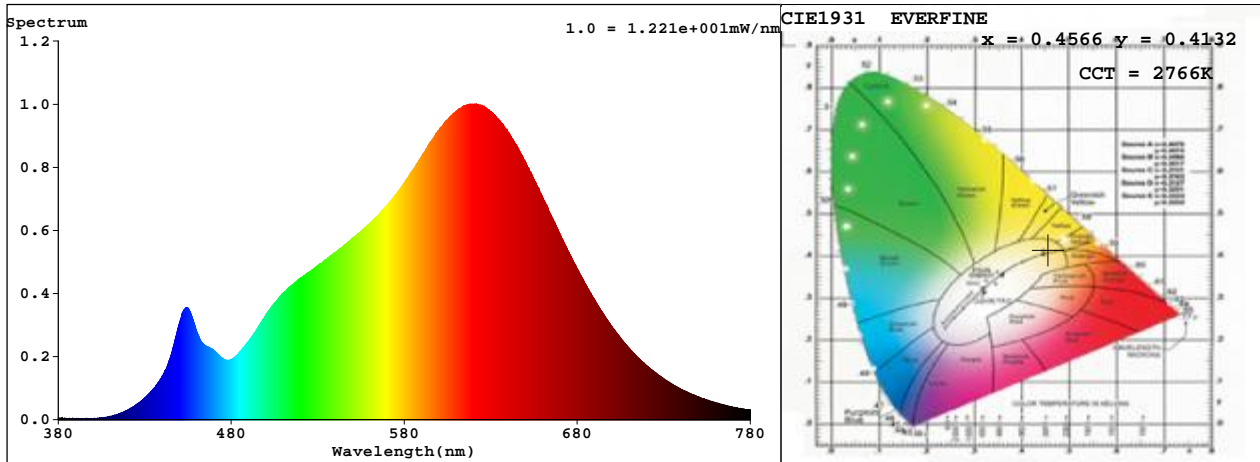
Spectrum Test Report

Sample :	Date :	2019-11-11
Specification : MR16-7.5-927-25D-DIM-G2	Sam. Status :	
Sample No. :	Instrument :	HaasSuite(EVERFINE)
Manufacturer : RAB LIGHTING INC	Test by :	
	Assessor :	damin

Test Condition

Temperature : 22.8Deg	RH :	65.0%
WL Range : 380nm-780nm	IP :	52671 (80%)
Test Mode : Fast Test	T :	820 ms
	Sensitivity :	Low

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4566$ $y = 0.4132$ / $u' = 0.2593$ $v' = 0.5278$ ($duv=1.23e-03$)

CCT= 2766K Prcp WL: Ld=583.5nm Purity=61.1%

Peak WL: Lp=622nm FWHM: =144.7nm Ratio:R=25.8% G=71.6% B=2.5%

Render Index: Ra = 92.4 CRI = 89.7 AvgR = 89.5

R1 =92 R2 =96 R3 =99 R4 =93 R5 =92 R6 =97 R7 =91

R8 =79 R9 =53 R10=91 R11=94 R12=85 R13=93 R14=99 R15=87

WHITE:ANSI_2700K

Photometric & Radiometric Parameters

Flux = 575.58 lm Eff. : 88.42 lm/W Fe = 1.9730 W

Flux of emitted photons(umol/s):9.8301 Flu. and blue light ratio:13.42 Fluorescent eff.:262.2

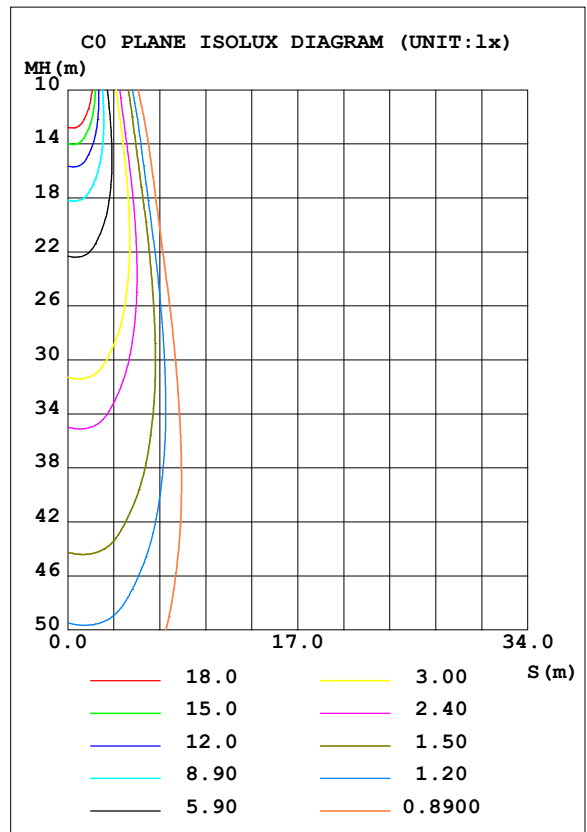
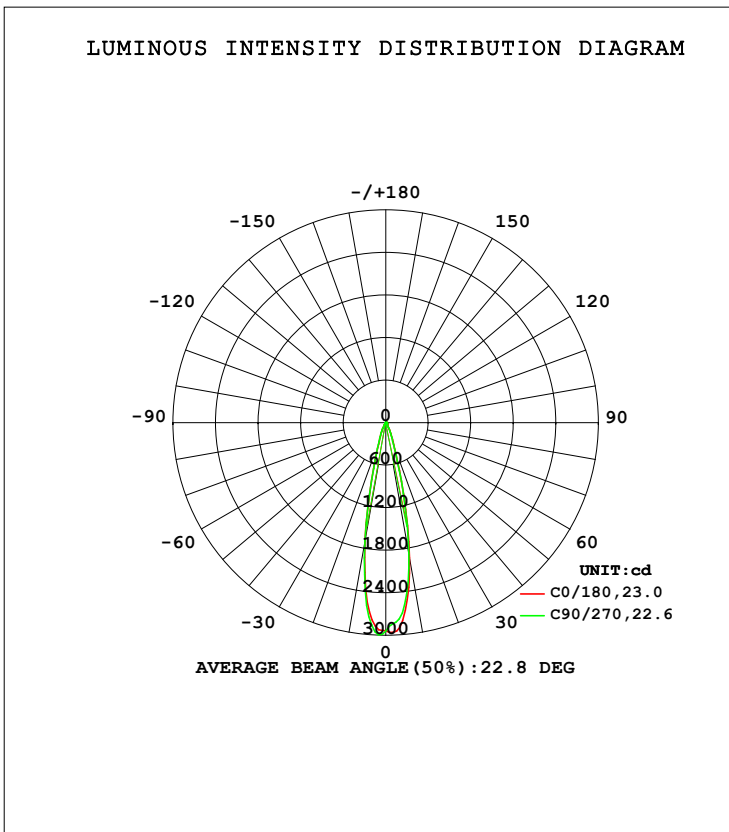
Electrical parameters

V = 11.91 V I = 0.5880 A P = 6.510 W PF = 0.9295 F=59.98 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:12.06V I:0.5943A P:6.660W PF:0.9290 Freq:59.98Hz Lamp Flux:585.305x1 lm		
NAME: MR16-7.5-927-25D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	MR16	Imax (cd)	2997	S/MH (C0/180)	0.36
NOMINAL POWER (W)	7.5	LOR (%)	100.0	S/MH (C90/270)	0.36
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	585.31	η UP, DN (C0-180)	0.0, 53.1
NOMINAL FLUX (lm)	585.305	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 46.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	12	η down (%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Testing Room
 Test Date: 2019-11-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.0.361
 Humidity: 65.0%
 Test Distance: 11.160m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270				γ	Φ zone	Φ total	%lum, lamp
10	1932	1878	1701	1694				0- 10	229.6	229.6	39.2,39.2
20	338.6	322.4	274.6	284.7				10- 20	224.1	453.7	77.5,77.5
30	88.53	78.79	68.23	71.54				20- 30	74.75	528.5	90.3,90.3
40	24.04	23.46	19.88	20.31				30- 40	25.41	553.9	94.6,94.6
50	11.64	12.35	11.19	11.51				40- 50	12.69	566.6	96.8,96.8
60	7.325	7.085	7.071	7.246				50- 60	8.069	574.6	98.2,98.2
70	4.942	4.818	4.700	4.713				60- 70	5.964	580.6	99.2,99.2
80	2.253	2.233	2.050	1.997				70- 80	3.640	584.2	99.8,99.8
90	0.0868	0.1184	0.0710	0.0710				80- 90	1.065	585.3	100,100
100								90-100			
110								100-110			
120								110-120			
130								120-130			
140								130-140			
150								140-150			
160								150-160			
170								160-170			
180								170-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

Conical surface Flux(90deg): 560.9 lm

%lum = 95.8%

%lamp = 95.8%

Conical surface Flux(120deg): 574.64 lm

%lum = 98.2%

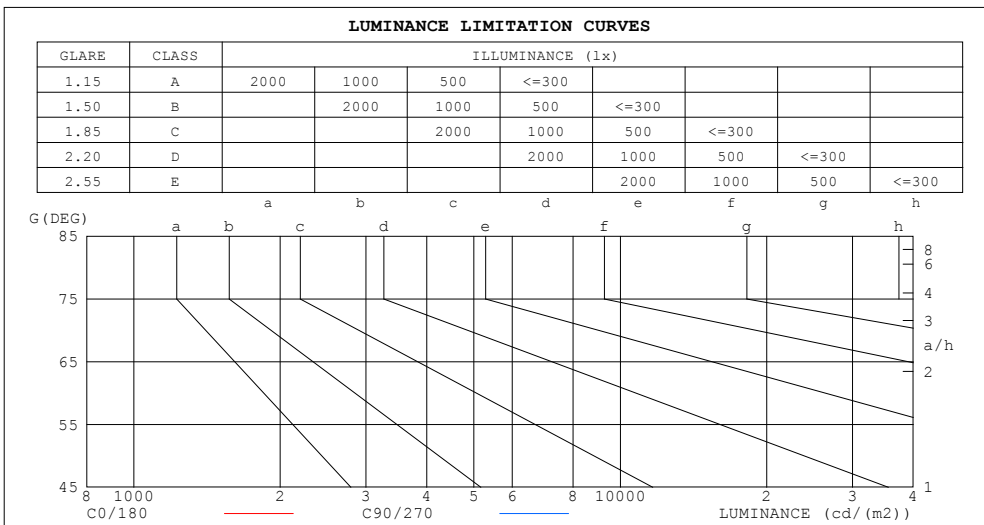
%lamp = 98.2%

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LUMINANCE LIMITATION CURVES

Test:U:12.06V I:0.5943A P:6.660W PF:0.9290 Freq:59.98Hz Lamp Flux:585.305x1 lm		
NAME: MR16-7.5-927-25D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	70	71
80	78	77
75	83	82
70	87	85
65	88	86
60	88	85
55	94	93
50	109	116
45	153	155

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WEC AND CCEC

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NAME: MR16-7.5-927-25D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.146	.083	.026	.139	.079	.025	.127	.073	.023	.115	.066	.021	.105	.061	.020	
2.0	.135	.074	.023	.129	.071	.022	.119	.066	.021	.110	.061	.019	.101	.057	.018	
3.0	.125	.067	.020	.120	.064	.019	.112	.061	.018	.104	.057	.017	.096	.053	.017	
4.0	.116	.061	.018	.113	.059	.017	.105	.056	.017	.099	.053	.016	.092	.050	.015	
5.0	.109	.056	.016	.106	.054	.016	.100	.052	.015	.094	.050	.015	.088	.047	.014	
6.0	.103	.051	.015	.100	.050	.015	.095	.048	.014	.090	.047	.014	.085	.045	.013	
7.0	.097	.048	.014	.095	.047	.013	.090	.045	.013	.086	.044	.013	.082	.042	.012	
8.0	.092	.045	.013	.090	.044	.013	.086	.043	.012	.082	.042	.012	.078	.040	.012	
9.0	.088	.042	.012	.086	.042	.012	.082	.041	.012	.079	.039	.011	.076	.038	.011	
10.0	.084	.040	.011	.082	.040	.011	.079	.039	.011	.076	.038	.011	.073	.037	.011	

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.151	.133	.117	.130	.114	.101	.089	.079	.071	.051	.046	.041	.016	.015	.013	
3.0	.137	.113	.095	.117	.098	.082	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.124	.098	.078	.107	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.114	.086	.065	.098	.074	.057	.067	.052	.040	.039	.030	.024	.013	.010	.008	
6.0	.105	.076	.055	.090	.066	.048	.062	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.097	.068	.047	.083	.059	.041	.058	.041	.029	.033	.024	.017	.011	.008	.006	
8.0	.090	.061	.041	.078	.053	.035	.054	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.085	.055	.035	.073	.048	.031	.050	.034	.022	.029	.020	.013	.010	.007	.004	
10.0	.079	.050	.031	.069	.044	.027	.048	.031	.019	.028	.018	.012	.009	.006	.004	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Testing Room
 Test Date:2019-11-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.0.361
 Humidity:65.0%
 Test Distance:11.160m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:12.06V I:0.5943A P:6.660W PF:0.9290 Freq:59.98Hz Lamp Flux:585.305x1 lm										
NAME: MR16-7.5-927-25D-DIM-G2					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: RAB LIGHTING INC					SUR.:			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	-0.2	0.5	0.0	0.7	0.8	-0.3	0.3	-0.1	0.5	0.6
3H	0.9	1.5	1.1	1.7	1.9	0.7	1.4	1.0	1.5	1.7
4H	1.4	2.0	1.7	2.2	2.4	1.2	1.9	1.5	2.1	2.3
6H	1.8	2.4	2.1	2.6	2.8	1.7	2.2	1.9	2.5	2.7
8H	1.9	2.5	2.2	2.7	3.0	1.8	2.4	2.1	2.6	2.9
12H	2.0	2.6	2.3	2.8	3.1	1.9	2.4	2.2	2.7	3.0
4H 2H	0.2	0.8	0.4	1.0	1.2	0.0	0.6	0.3	0.9	1.1
3H	1.5	2.0	1.8	2.3	2.5	1.3	1.9	1.7	2.1	2.4
4H	2.1	2.6	2.5	2.9	3.2	2.0	2.5	2.3	2.8	3.1
6H	2.7	3.1	3.0	3.4	3.8	2.5	3.0	2.9	3.3	3.6
8H	2.8	3.3	3.2	3.6	4.0	2.7	3.2	3.1	3.5	3.9
12H	3.0	3.3	3.4	3.7	4.1	2.9	3.3	3.3	3.6	4.0
8H 4H	2.3	2.7	2.7	3.1	3.5	2.2	2.6	2.6	3.0	3.3
6H	3.0	3.3	3.4	3.7	4.1	2.9	3.2	3.3	3.6	4.1
8H	3.3	3.6	3.7	4.0	4.4	3.2	3.5	3.6	3.9	4.3
12H	3.5	3.7	3.9	4.2	4.6	3.4	3.7	3.9	4.1	4.6
12H 4H	2.3	2.7	2.7	3.1	3.5	2.2	2.6	2.6	3.0	3.4
6H	3.0	3.3	3.5	3.8	4.2	3.0	3.3	3.4	3.7	4.1
8H	3.3	3.6	3.8	4.0	4.5	3.3	3.5	3.7	4.0	4.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.5				
1.5H	+ 0.7 / - 0.4					+ 0.6 / - 0.4				
2.0H	+ 0.8 / - 0.4					+ 0.9 / - 0.5				

CIE Pub.117, 585.3 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.9)

C Range: 0 - 360DEG
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 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.0.361
 Humidity:65.0%
 Test Distance:11.160m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:12.06V I:0.5943A P:6.660W PF:0.9290 Freq:59.98Hz Lamp Flux:585.305x1 lm		
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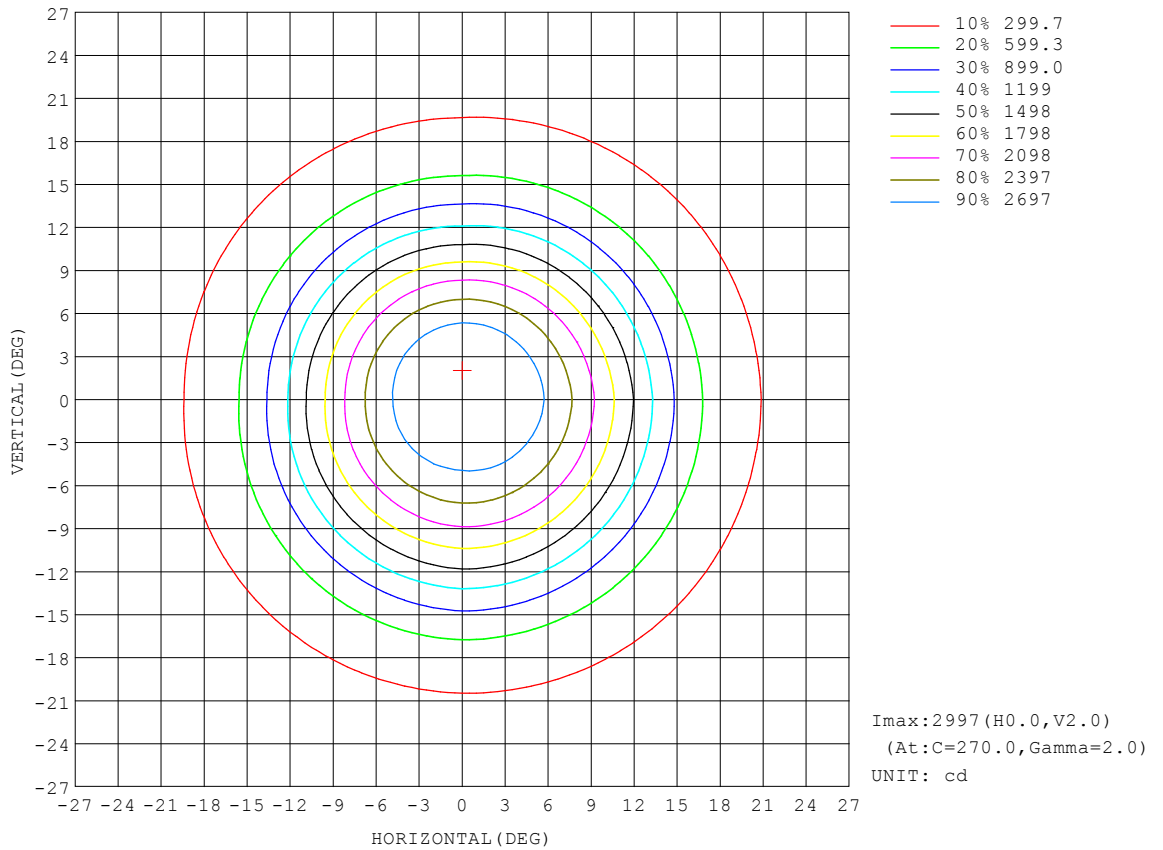
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	88	82	78	88	82	78	87	82	78	75
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	91	99	94	90	97	93	90	86
1.25	103	98	95	102	98	95	100	97	94	90
1.50	106	101	98	105	101	98	103	99	97	92
2.00	109	104	101	107	103	101	104	101	99	94
2.50	110	106	104	109	105	103	106	103	101	95
3.00	112	108	106	110	107	105	107	104	102	96
4.00	114	111	109	112	109	108	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

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 Remarks:

ISOCANDELA DIAGRAM

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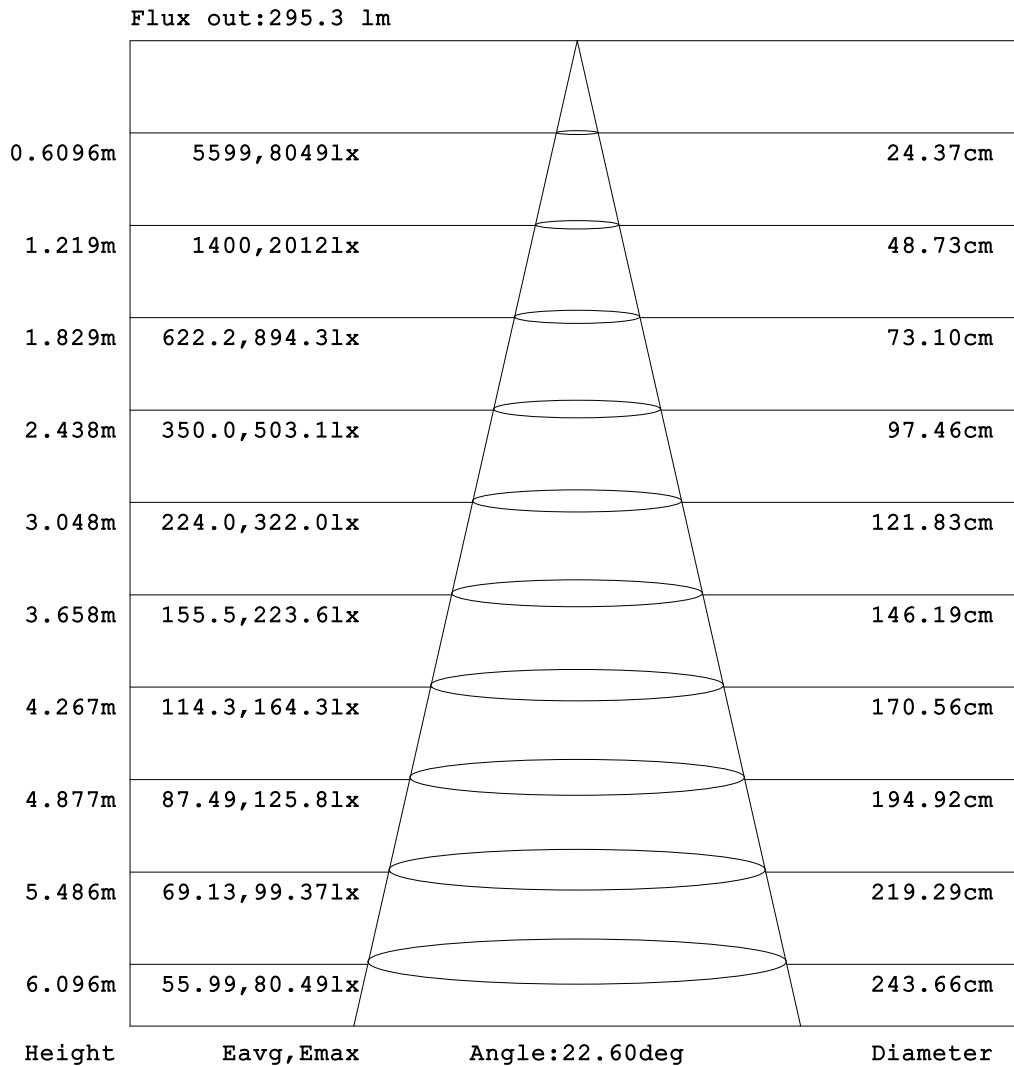


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AAI Figure

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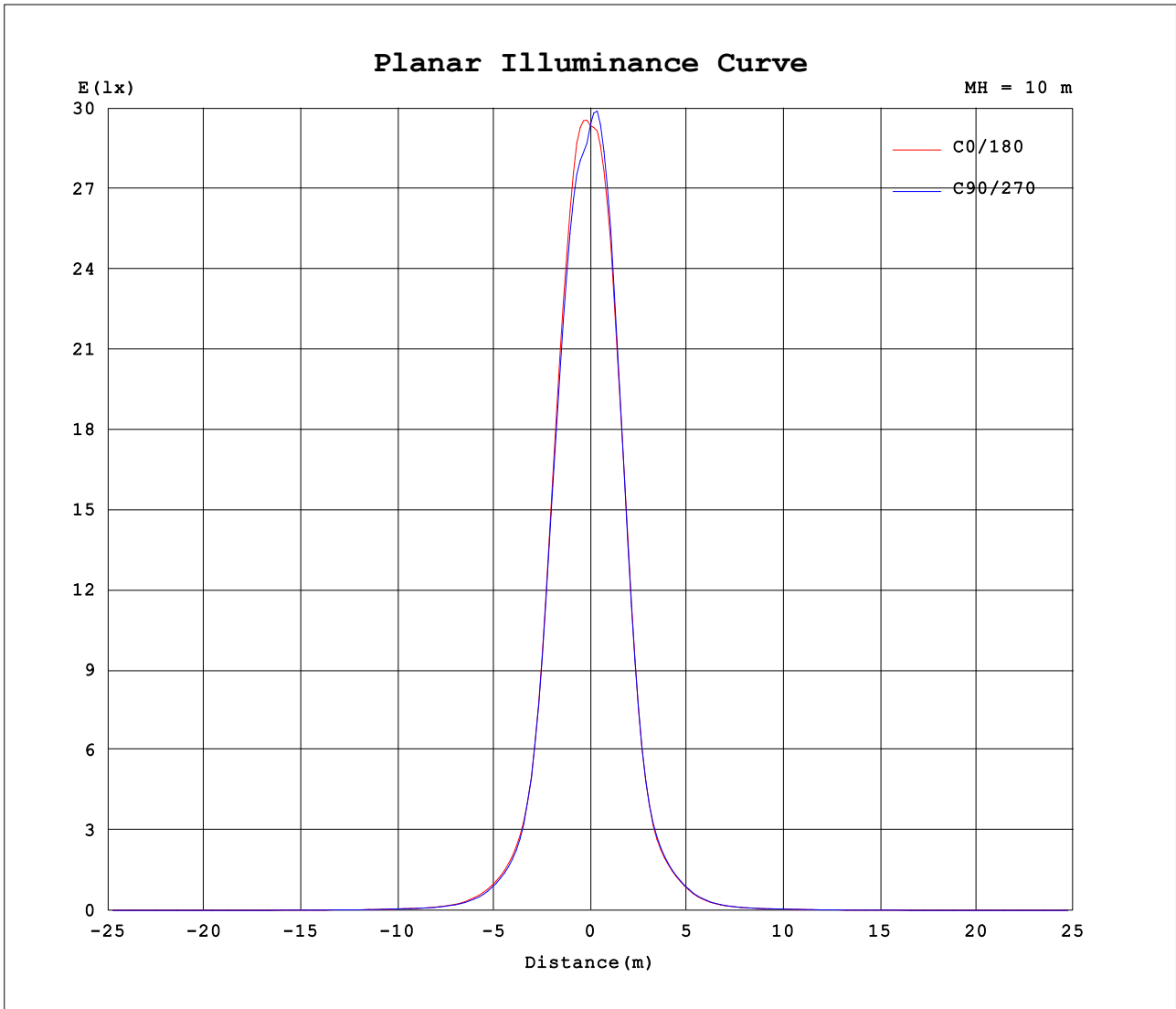


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Planar Illuminance Curve



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LUMINOUS DISTRIBUTION INTENSITY DATA

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Table--1

UNIT: cd

C (DEG)		UNIT: cd																		
γ (DEG)	0	90	180	270																
	0	2936	2940	2936	2940															
5	2795	2693	2680	2746																
10	1932	1878	1701	1694																
15	861	854	672	675																
20	339	322	275	285																
25	174	162	146	150																
30	88.5	78.8	68.2	71.5																
35	43.5	39.4	33.3	34.6																
40	24.0	23.5	19.9	20.3																
45	17.9	18.2	15.8	17.0																
50	11.6	12.4	11.2	11.5																
55	8.97	8.85	8.53	8.58																
60	7.32	7.09	7.07	7.25																
65	6.17	6.00	5.95	6.05																
70	4.94	4.82	4.70	4.71																
75	3.59	3.52	3.35	3.31																
80	2.25	2.23	2.05	2.00																
85	1.02	1.03	0.83	0.81																
90	0.09	0.12	0.07	0.07																

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