

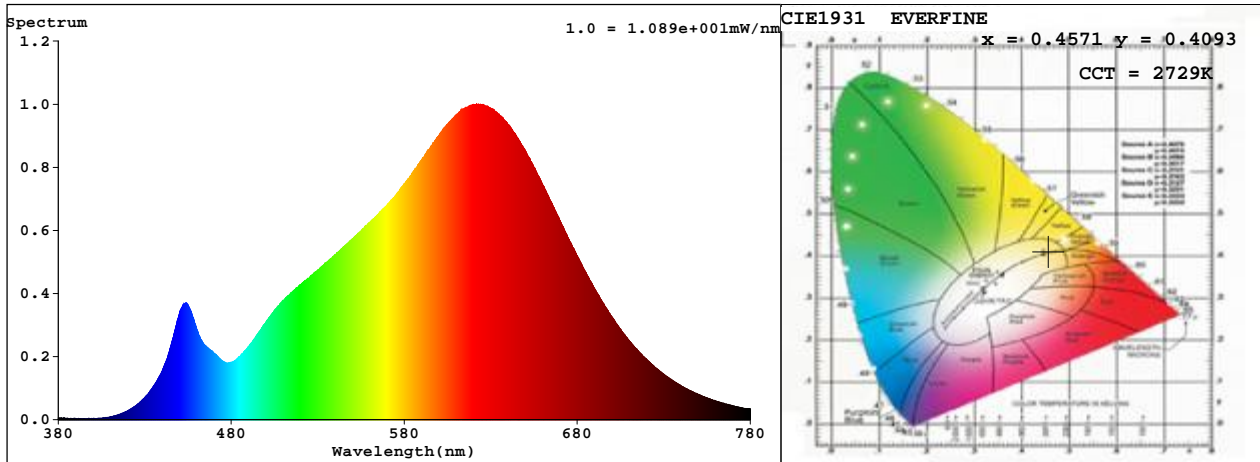
Spectrum Test Report

Sample :	Date :	2019-11-11
Specification : MR16-6.5-927-35D-DIM-G2	Sam. Status :	
Sample No. :	Instrument :	HaasSuite(EVERFINE)
Manufacturer : RAB LIGHTING INC	Test by :	
	Assessor :	damin

Test Condition

Temperature : 21.4Deg	RH :	65.0%
WL Range : 380nm-780nm	IP :	47658 (73%)
Test Mode : Fast Test	T :	96 ms
	Sensitivity :	High

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4571$ $y = 0.4093$ / $u' = 0.2613$ $v' = 0.5265$ ($duv = -2.37e-04$)

CCT= 2729K Prcp WL: Ld=584.1nm Purity=60.1%

Peak WL: Lp=622nm FWHM: =146.3nm Ratio:R=26.1% G=71.4% B=2.5%

Render Index: Ra = 92.4 CRI = 89.7 AvgR = 89.6

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

R8 =80 R9 =57 R10=90 R11=93 R12=85 R13=93 R14=99 R15=88

WHITE:ANSI_2700K

Photometric & Radiometric Parameters

Flux = 507.91 lm Eff. : 85.04 lm/W Fe = 1.7836 W

Flux of emitted photons(umol/s):8.9172 Flu. and blue light ratio:13.17 Fluorescent eff.:258.8

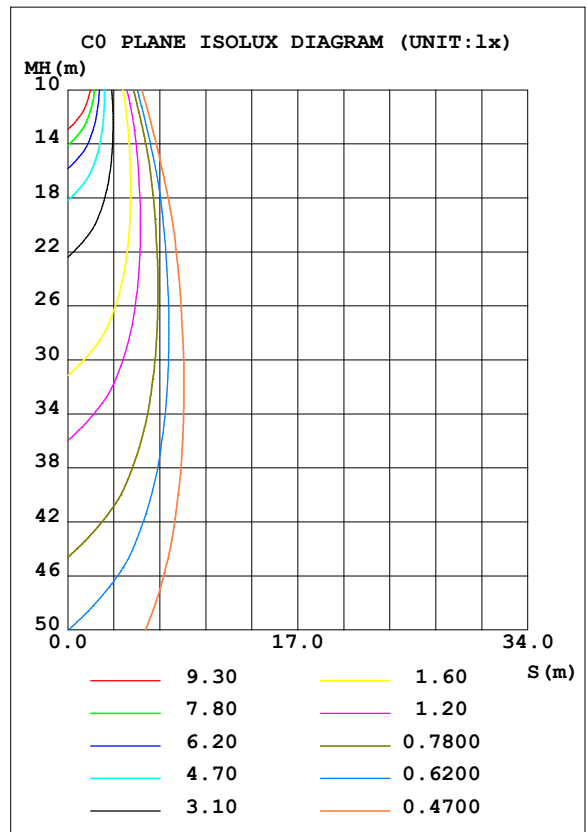
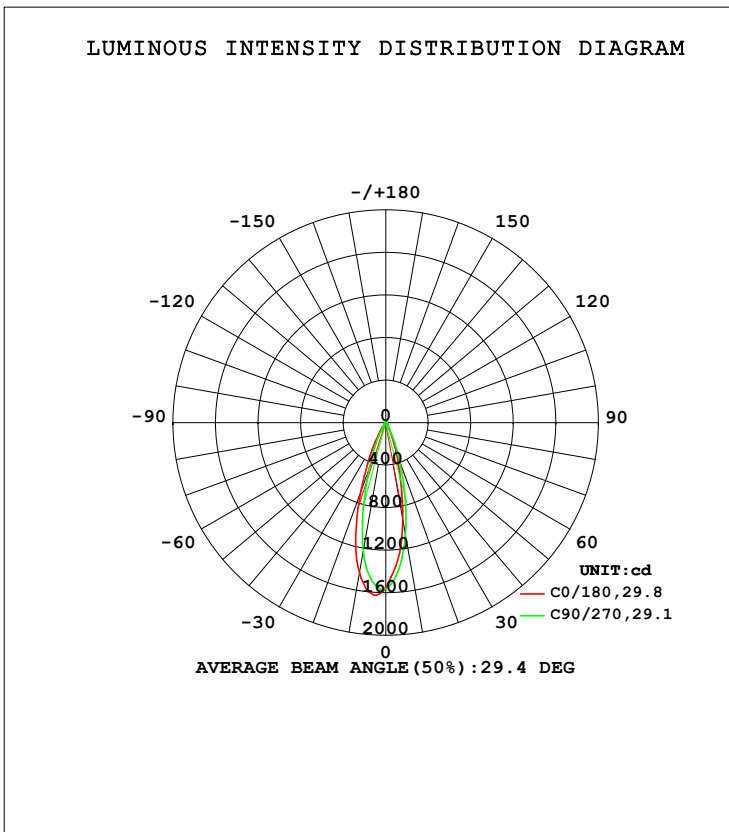
Electrical parameters

V = 11.98 V I = 0.5349 A P = 5.973 W PF = 0.9323 F=59.97 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:12.07V I:0.5220A P:5.869W PF:0.9313 Freq:59.98Hz Lamp Flux:511.653x1 lm		
NAME: MR16-6.5-927-35D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 87.18 lm/W
MODEL	MR16	Imax (cd)	1626	S/MH (C0/180)	0.59	
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	0.51	
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	511.65	η UP, DN (C0-180)	0.0, 39.9	
NOMINAL FLUX (lm)	511.653	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 60.1	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE (V)	12	η down (%)	100.0	CIBSE SHR MAX	0.50	



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	929.9	1070	1432	1228					0- 10	129.1	129.1	25.2,25.2
20	274.8	379.3	686.3	451.2					10- 20	213.6	342.8	67,67
30	55.32	76.67	178.2	101.6					20- 30	107.5	450.2	88,88
40	16.89	20.52	36.04	22.86					30- 40	32.30	482.5	94.3,94.3
50	8.974	10.20	12.43	10.64					40- 50	12.02	494.6	96.7,96.7
60	6.054	6.399	7.674	6.843					50- 60	7.485	502.0	98.1,98.1
70	3.555	4.040	5.065	4.360					60- 70	5.428	507.5	99.2,99.2
80	1.185	1.734	2.643	1.913					70- 80	3.224	510.7	99.8,99.8
90	0.0158	0	0.4972	0.0474					80- 90	0.9542	511.7	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): 489.51 lm

%lum = 95.7%

%lamp = 95.7%

Conical surface Flux(120deg): 502.05 lm

%lum = 98.1%

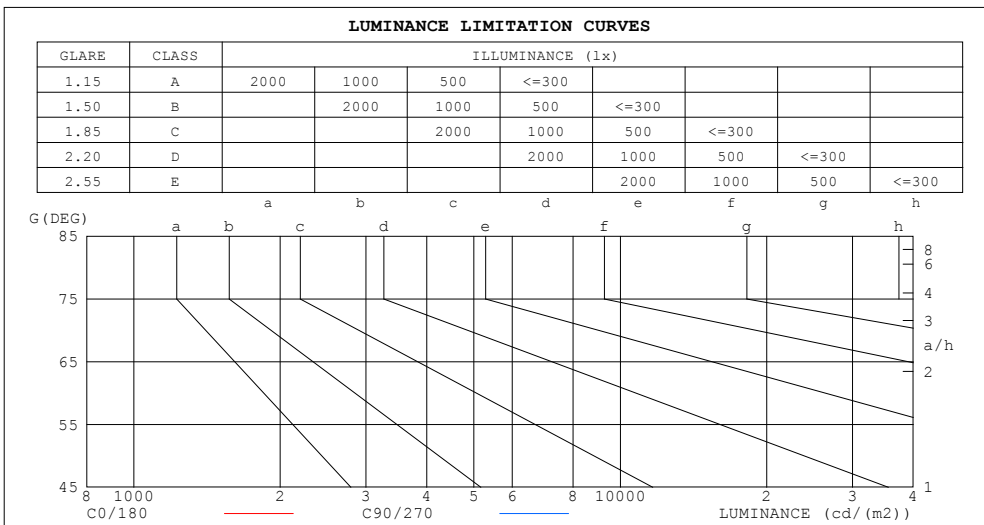
%lamp = 98.1%

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LUMINANCE LIMITATION CURVES

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SPEC.:	DIM.:	SERIAL No.:
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LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	11	27
80	23	33
75	30	37
70	34	39
65	38	41
60	40	42
55	42	46
50	46	52
45	55	65

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WEC AND CCEC

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SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.158	.090	.028	.152	.086	.027	.139	.080	.025	.128	.074	.024	.117	.068	.022	
2.0	.148	.081	.025	.142	.078	.024	.132	.073	.023	.122	.069	.021	.113	.064	.020	
3.0	.138	.074	.022	.134	.071	.022	.125	.068	.021	.117	.064	.020	.109	.060	.019	
4.0	.130	.067	.020	.126	.066	.019	.118	.063	.019	.111	.060	.018	.105	.057	.017	
5.0	.122	.062	.018	.119	.061	.018	.112	.059	.017	.107	.056	.017	.101	.054	.016	
6.0	.116	.058	.017	.113	.057	.016	.107	.055	.016	.102	.053	.016	.097	.051	.015	
7.0	.110	.054	.015	.107	.053	.015	.102	.052	.015	.098	.050	.015	.094	.049	.014	
8.0	.105	.051	.014	.102	.050	.014	.098	.049	.014	.094	.048	.014	.090	.046	.014	
9.0	.100	.048	.014	.098	.048	.013	.094	.047	.013	.091	.045	.013	.087	.044	.013	
10.0	.096	.046	.013	.094	.045	.013	.091	.044	.012	.087	.043	.012	.084	.042	.012	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.170	.157	.146	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011	
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006	
7.0	.102	.069	.045	.088	.059	.040	.061	.042	.028	.035	.025	.017	.011	.008	.006	
8.0	.096	.062	.039	.082	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.090	.057	.034	.078	.049	.030	.054	.035	.021	.031	.020	.013	.010	.007	.004	
10.0	.085	.052	.030	.073	.045	.026	.051	.032	.018	.030	.019	.011	.010	.006	.004	

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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:

UGR(Unified Glare Rating) Table

Test:U:12.07V I:0.5220A P:5.869W PF:0.9313 Freq:59.98Hz Lamp Flux:511.653x1 lm										
NAME: MR16-6.5-927-35D-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	-3.2	-2.4	-3.0	-2.3	-2.1	-2.6	-1.8	-2.3	-1.6	-1.5
3H	-2.2	-1.5	-1.9	-1.3	-1.1	-1.6	-0.8	-1.3	-0.7	-0.5
4H	-1.8	-1.1	-1.5	-0.9	-0.7	-1.1	-0.4	-0.8	-0.2	0.0
6H	-1.6	-0.9	-1.3	-0.7	-0.4	-0.8	-0.1	-0.5	0.1	0.4
8H	-1.5	-0.9	-1.2	-0.7	-0.4	-0.6	-0.0	-0.3	0.2	0.5
12H	-1.5	-0.9	-1.2	-0.7	-0.4	-0.6	0.0	-0.3	0.3	0.5
4H 2H	-2.8	-2.1	-2.5	-1.9	-1.6	-2.2	-1.5	-2.0	-1.3	-1.1
3H	-1.5	-0.9	-1.2	-0.7	-0.4	-1.0	-0.4	-0.7	-0.2	0.1
4H	-1.0	-0.5	-0.7	-0.2	0.1	-0.4	0.1	-0.1	0.4	0.7
6H	-0.7	-0.2	-0.3	0.1	0.4	0.0	0.5	0.4	0.8	1.2
8H	-0.7	-0.2	-0.3	0.1	0.5	0.2	0.6	0.5	1.0	1.3
12H	-0.7	-0.3	-0.3	0.1	0.5	0.2	0.7	0.6	1.0	1.4
8H 4H	-0.8	-0.4	-0.4	-0.0	0.3	-0.3	0.2	0.1	0.5	0.9
6H	-0.4	-0.0	0.0	0.3	0.8	0.3	0.6	0.7	1.0	1.4
8H	-0.3	0.0	0.1	0.4	0.9	0.5	0.8	0.9	1.2	1.6
12H	-0.3	-0.0	0.2	0.4	0.9	0.6	0.9	1.1	1.3	1.8
12H 4H	-0.8	-0.4	-0.4	-0.1	0.3	-0.3	0.1	0.1	0.5	0.9
6H	-0.4	-0.1	0.0	0.3	0.8	0.3	0.6	0.7	1.0	1.5
8H	-0.3	0.0	0.2	0.4	0.9	0.5	0.8	1.0	1.2	1.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.5					+ 0.5 / - 0.5				
1.5H	+ 0.6 / - 0.5					+ 1.0 / - 0.3				
2.0H	+ 0.4 / - 0.4					+ 0.5 / - 0.4				

CIE Pub.117, 511.7 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.3)

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 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.0.361
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 Test Distance:11.160m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:12.07V I:0.5220A P:5.869W PF:0.9313 Freq:59.98Hz Lamp Flux:511.653x1 lm		
NAME: MR16-6.5-927-35D-DIM-G2	TYPE:	WEIGHT:
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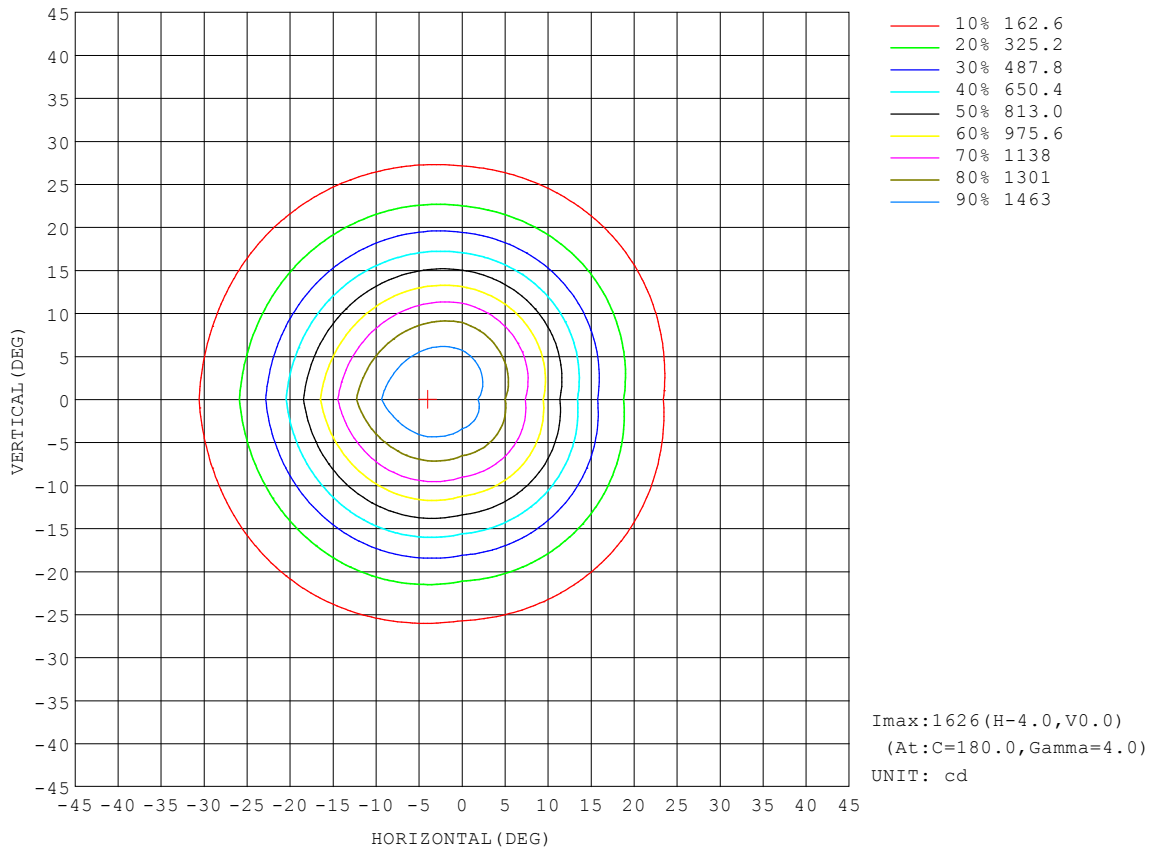
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	88	82	78	88	82	78	87	81	78	74
0.80	95	90	86	95	89	86	93	89	85	82
1.00	99	94	90	99	93	90	97	93	90	86
1.25	103	98	95	102	98	94	100	96	94	89
1.50	106	101	98	105	101	97	103	99	96	92
2.00	109	104	101	107	103	100	104	101	99	94
2.50	110	106	103	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	107	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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ISOCANDELA DIAGRAM

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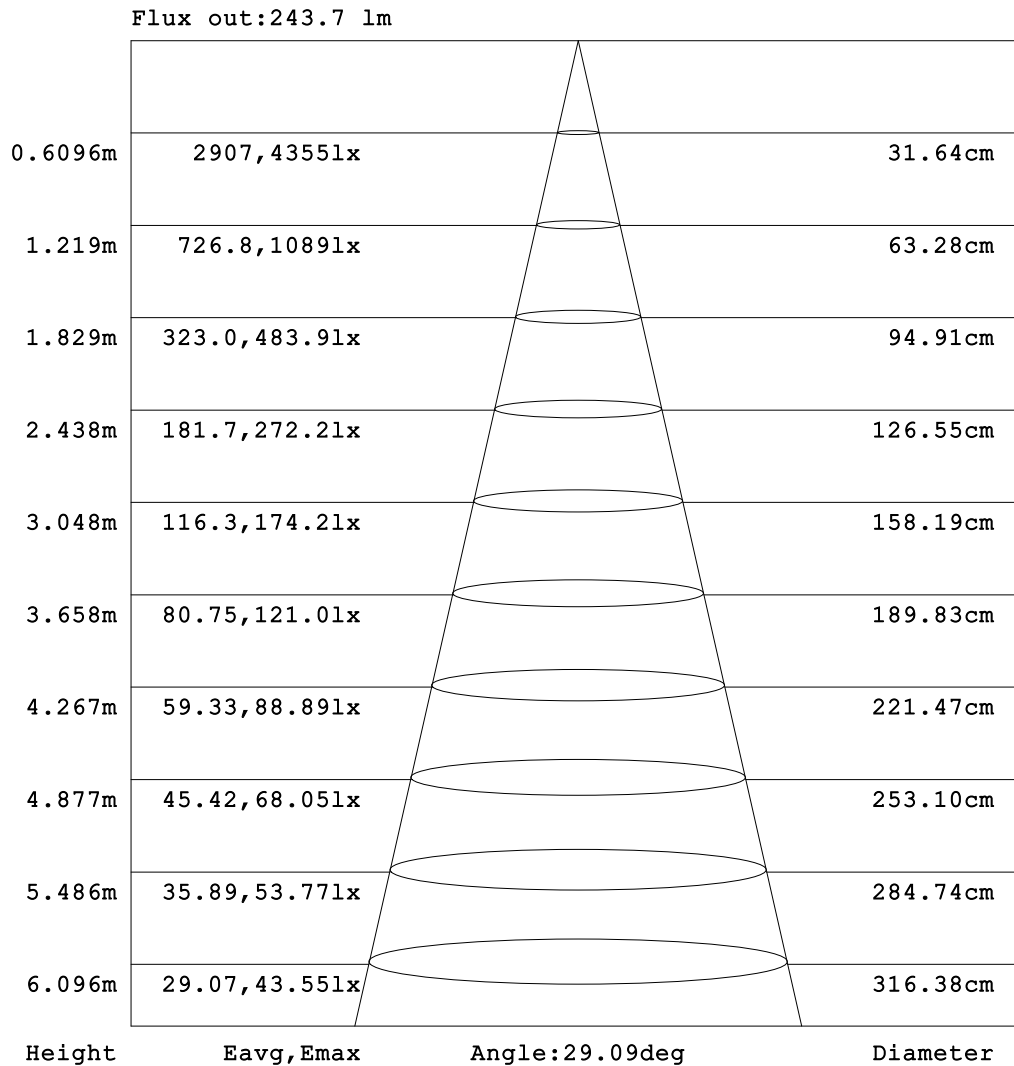


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AAI Figure

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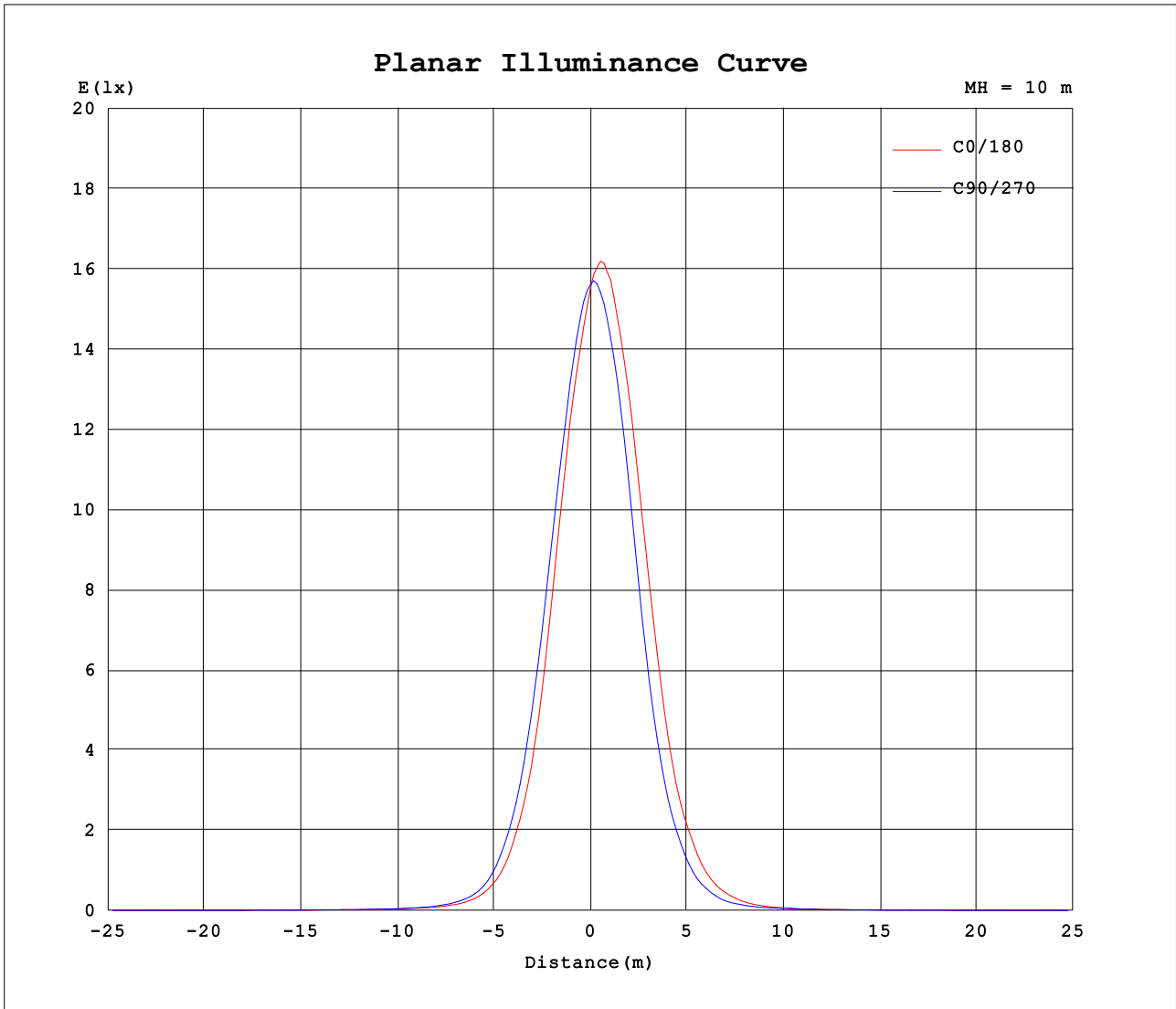


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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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) γ (DEG)	0	90	180	270														
0	1553	1561	1553	1561														
5	1301	1390	1611	1493														
10	930	1070	1432	1228														
15	534	696	1095	814														
20	275	379	686	451														
25	124	185	364	230														
30	55.3	76.7	178	102														
35	27.7	37.4	81.2	44.3														
40	16.9	20.5	36.0	22.9														
45	11.8	13.8	19.3	15.2														
50	8.97	10.2	12.4	10.6														
55	7.29	8.01	9.28	8.41														
60	6.05	6.40	7.67	6.84														
65	4.81	5.19	6.33	5.59														
70	3.55	4.04	5.06	4.36														
75	2.34	2.89	3.87	3.13														
80	1.18	1.73	2.64	1.91														
85	0.29	0.70	1.43	0.82														
90	0.02	0.00	0.50	0.05														

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