

MR16 AMBER



DESCRIPTION

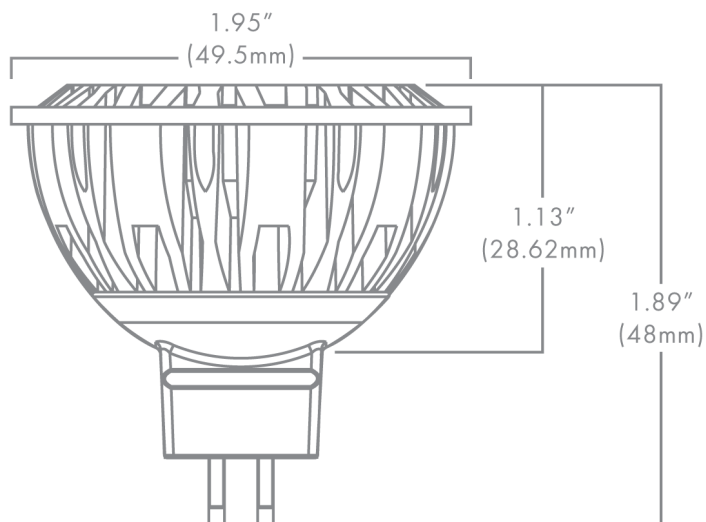
The Brilliance MR16 Bi-Pin is designed to fit in standard low voltage MR16 fixtures and offers a long lamp life. These LEDs are thermally engineered to operate in enclosed fixtures and provide added security by automatically cooling down and reducing lumen output when exposed to extreme heat, such as air temperatures above 125°F. There is no color shift when lumen output is reduced. Dimmable with Brilliance Dimmer and most magnetic transformers.

MR16 FEATURES

- Earth tone colored housing
- Dimmable with Brilliance Dimmer and most magnetic transformers
- Enhanced ESD (Electro-Static Discharge) protection (IEC-61000-4-2)
- Heat overload protection technology
- Fully potted PC board
- UL Certified E360351

MR16 SPECS

Wattage	4, 5
Beam Spread	30°
Color	Amber
Operating Range	8-25 VAC/DC
CRI	85
IP	61
Lamp Life (hours)	50,000
Warranty (years)	5



Part Number: **MR16-X-AMBER-30**

Wattage



WILDLIFE LIGHTING CERTIFICATION PROGRAM

Certification Number: 2018-036

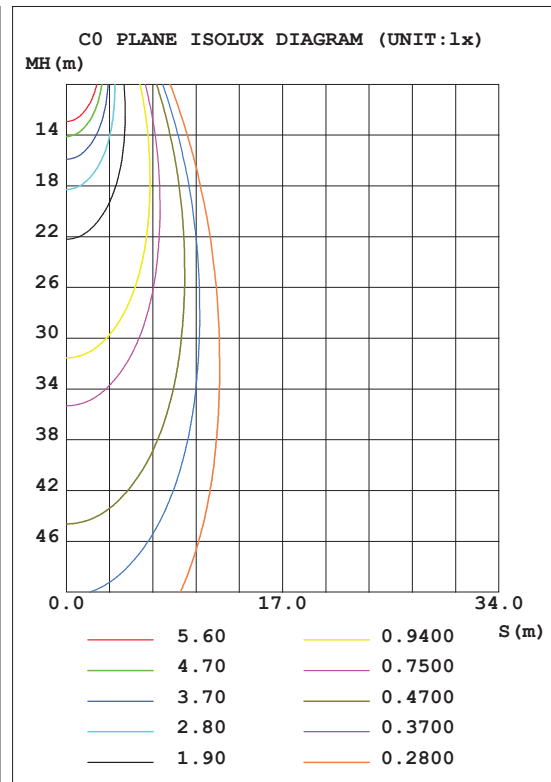
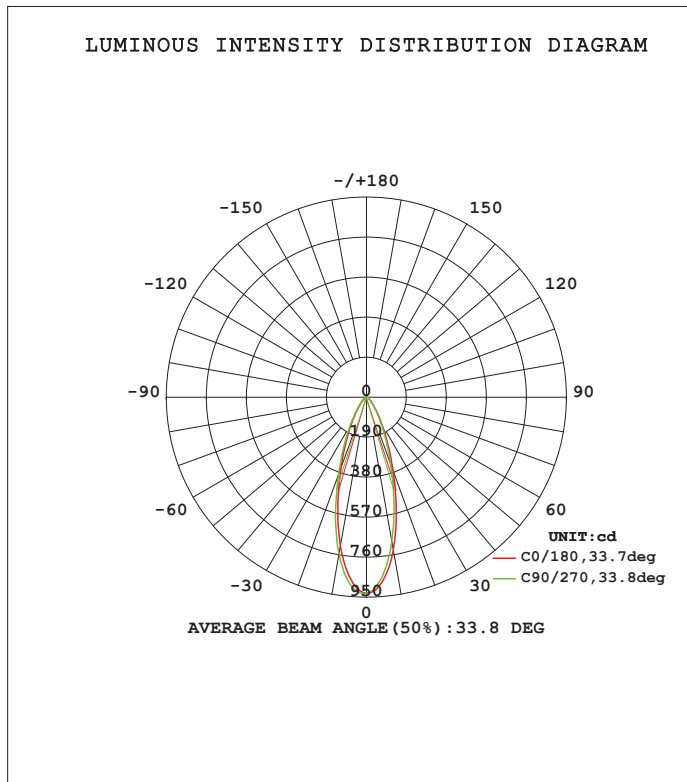
Certification Requirements: Must be installed in a low mounted, downward directed and shielded fixture



LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: MR16 5W 2700K 30Degree	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Brilliance.led.llc	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		I _{max} (cd)	934.6	S/MH (C0/180)	0.56
NOMINAL POWER (W)	0	LOR (%)	97.5	S/MH (C90/270)	0.53
RATED VOLTAGE (V)	0	TOTAL FLUX (lm)	465.21	η UP, DN (C0-180)	0.0, 47.0
NOMINAL FLUX (lm)	477.322	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	0.0	η down (%)	97.5	CIBSE SHR MAX	0.60



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Zhu
 Test Date: 2020-06-11

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.280
 Humidity: 65.0%
 Test Distance: 5.833m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	736.0	728.1	695.6	684.0	716.0	725.7	755.0	777.7	0- 10	78.68	78.68	16.9,16.5
20	368.5	372.1	338.2	339.0	353.6	374.5	388.0	420.4	10- 20	148.6	227.3	48.9,47.6
30	145.0	158.8	132.7	142.7	140.3	160.9	157.4	182.2	20- 30	111.7	339.0	72.9,71
40	55.75	62.97	50.57	56.37	53.32	63.81	60.77	71.93	30- 40	60.87	399.8	85.9,83.8
50	24.99	26.13	22.19	23.07	23.08	25.79	26.40	29.02	40- 50	30.11	430.0	92.4,90.1
60	14.44	13.96	12.69	13.27	12.86	13.58	14.35	14.52	50- 60	16.28	446.2	95.9,93.5
70	10.27	9.182	8.336	8.822	8.229	8.971	10.14	9.584	60- 70	11.38	457.6	98.4,95.9
80	3.378	3.244	2.775	2.195	2.967	2.979	3.443	4.054	70- 80	6.524	464.1	99.8,97.2
90	0.0753	0.0324	0.0347	0.0347	0.0237	0.0216	0.0217	0.0260	80- 90	1.078	465.2	100,97.5
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		

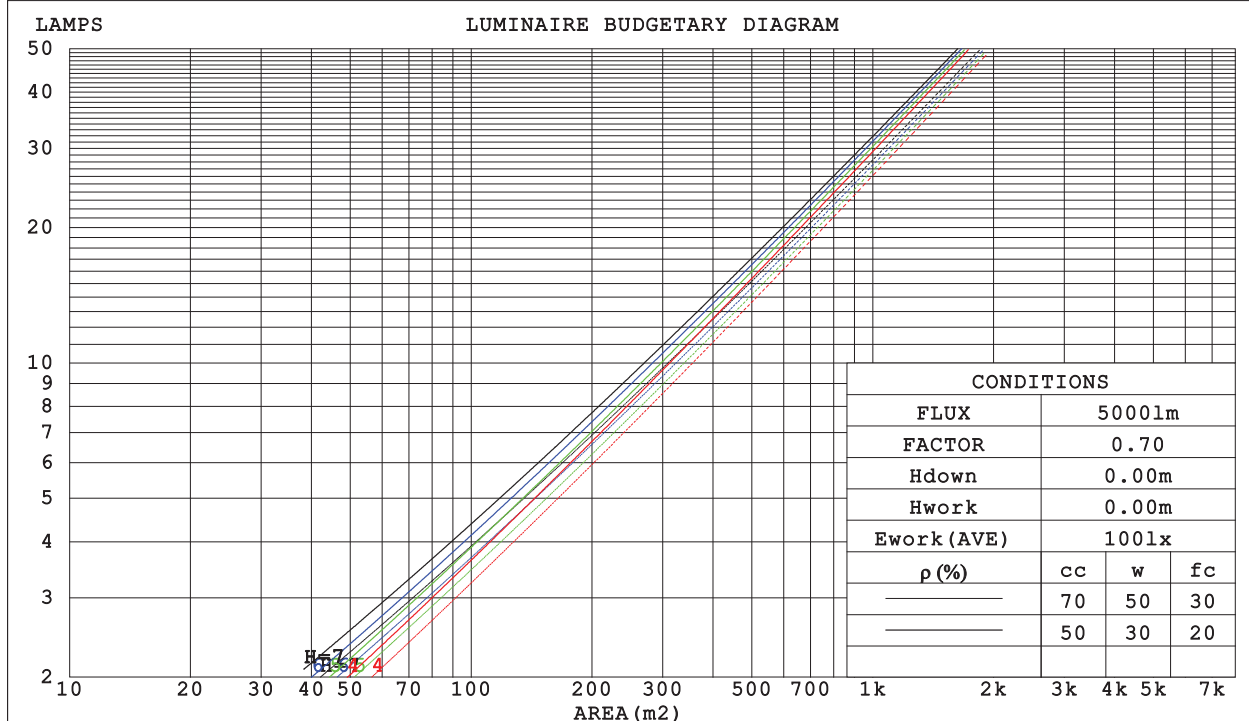
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: MR16 5W 2700K 30Degree	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Brilliance.led.11c	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0														
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%															
ρw	20%			20%			20%			20%			20%			0														
ρfc	20%			20%			20%			20%			20%																	
RCR	RCR:Room Cavity Ratio															Coefficients of Utilization(CU)														
0.0	1.16	1.16	1.16	1.13	1.13	1.13	1.08	1.08	1.08	1.04	1.04	1.04	.99	.99	.99	.97														
1.0	1.08	1.05	1.03	1.05	1.03	1.01	1.01	.98	.98	.98	.96	.95	.94	.93	.92	.91														
2.0	.90	.96	.92	.98	.94	.91	.95	.92	.89	.92	.90	.87	.89	.87	.86	.84														
3.0	.93	.88	.84	.92	.87	.84	.89	.85	.82	.87	.84	.81	.85	.82	.80	.78														
4.0	.87	.82	.78	.86	.81	.77	.84	.80	.76	.82	.78	.75	.80	.77	.75	.73														
5.0	.82	.76	.72	.81	.76	.72	.79	.75	.71	.78	.74	.71	.76	.73	.70	.69														
6.0	.78	.72	.68	.77	.71	.67	.75	.71	.67	.74	.70	.67	.73	.69	.66	.65														
7.0	.73	.68	.64	.73	.67	.64	.72	.67	.63	.70	.66	.63	.69	.65	.63	.61														
8.0	.70	.64	.60	.69	.64	.60	.68	.63	.60	.67	.63	.60	.66	.62	.59	.58														
9.0	.66	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.57	.63	.59	.56	.55														
10.0	.63	.58	.54	.63	.58	.54	.62	.57	.54	.61	.57	.54	.61	.57	.54	.53														



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WEC AND CCEC

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pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.182	.103	.033	.175	.100	.032	.163	.093	.030	.151	.087	.028	.141	.082	.026	
2.0	.172	.094	.029	.167	.092	.028	.156	.087	.027	.147	.082	.026	.138	.078	.025	
3.0	.162	.086	.026	.157	.084	.025	.148	.080	.024	.140	.077	.024	.133	.073	.023	
4.0	.152	.079	.023	.148	.078	.023	.141	.075	.022	.134	.072	.022	.127	.069	.021	
5.0	.144	.073	.021	.140	.072	.021	.133	.070	.020	.127	.067	.020	.122	.065	.020	
6.0	.136	.068	.019	.133	.067	.019	.127	.065	.019	.121	.063	.019	.116	.061	.018	
7.0	.129	.064	.018	.126	.063	.018	.121	.061	.018	.116	.060	.017	.112	.058	.017	
8.0	.122	.060	.017	.120	.059	.017	.115	.058	.016	.111	.056	.016	.107	.055	.016	
9.0	.117	.056	.016	.114	.056	.016	.110	.055	.015	.106	.053	.015	.103	.052	.015	
10.0	.111	.053	.015	.109	.053	.015	.106	.052	.015	.102	.051	.014	.099	.050	.014	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.186	.186	.186	.159	.159	.159	.108	.108	.108	.062	.062	.062	.020	.020	.020	
1.0	.167	.153	.140	.143	.132	.121	.098	.090	.084	.056	.052	.049	.018	.017	.016	
2.0	.153	.129	.109	.131	.111	.094	.090	.077	.066	.052	.045	.039	.017	.014	.013	
3.0	.141	.111	.087	.121	.096	.075	.083	.066	.053	.048	.039	.031	.015	.013	.010	
4.0	.131	.096	.070	.112	.083	.061	.077	.058	.043	.045	.034	.025	.014	.011	.008	
5.0	.122	.085	.058	.105	.074	.050	.072	.051	.036	.042	.030	.021	.013	.010	.007	
6.0	.114	.076	.049	.098	.066	.042	.068	.046	.030	.039	.027	.018	.013	.009	.006	
7.0	.107	.069	.041	.092	.059	.036	.064	.042	.025	.037	.025	.015	.012	.008	.005	
8.0	.102	.062	.035	.087	.054	.031	.060	.038	.022	.035	.022	.013	.011	.007	.004	
9.0	.096	.057	.031	.083	.050	.027	.057	.035	.019	.033	.021	.011	.011	.007	.004	
10.0	.092	.053	.027	.079	.046	.024	.055	.032	.017	.032	.019	.010	.010	.006	.003	

C Range: 0 - 360DEG
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 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.280
 Humidity:65.0%
 Test Distance:5.833m [K=1.0000]
 Remarks:

Uncorrected UGR Table

NAME: MR16 5W 2700K 30Degree						TYPE:					WEIGHT:				
SPEC.:						DIM.:					SERIAL No.:				
MFR.: Brilliance.led.11c						SUR.:					PROTECTION ANGLE:				
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	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	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	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise									
x = 2H y = 2H	5.7	6.6	5.9	6.8	6.9	5.2	6.2	5.4	6.3	6.5	5.7	6.7	5.9	6.8	6.9
3H	6.6	7.5	6.9	7.7	7.9	6.0	6.9	6.3	7.1	7.3	6.6	7.5	6.9	7.7	7.9
4H	7.1	7.9	7.3	8.1	8.3	6.4	7.2	6.6	7.4	7.6	7.1	7.9	7.3	8.1	8.3
6H	7.3	8.1	7.6	8.3	8.6	6.5	7.3	6.8	7.6	7.8	7.3	8.1	7.6	8.3	8.6
8H	7.3	8.1	7.7	8.3	8.6	6.5	7.3	6.9	7.5	7.8	7.3	8.1	7.6	8.3	8.6
12H	7.3	8.1	7.7	8.3	8.6	6.5	7.2	6.8	7.5	7.8	7.3	8.1	7.6	8.3	8.6
4H 2H	5.9	6.7	6.2	6.9	7.2	5.5	6.3	5.8	6.6	6.8	6.0	6.8	6.3	7.0	7.2
3H	7.1	7.8	7.4	8.1	8.3	6.6	7.3	6.9	7.5	7.8	6.6	7.3	6.9	7.5	7.8
4H	7.6	8.3	8.0	8.6	8.9	7.0	7.7	7.3	8.0	8.3	7.0	7.7	7.3	8.0	8.3
6H	8.0	8.6	8.4	8.9	9.2	7.3	7.9	7.7	8.2	8.5	7.3	7.9	7.7	8.2	8.5
8H	8.0	8.6	8.4	8.9	9.3	7.3	7.8	7.7	8.2	8.5	7.3	7.8	7.7	8.2	8.5
12H	8.1	8.6	8.5	8.9	9.3	7.2	7.7	7.7	8.1	8.5	7.2	7.7	7.7	8.1	8.5
8H 4H	7.8	8.3	8.2	8.7	9.0	7.2	7.7	7.6	8.1	8.4	7.2	7.7	7.6	8.1	8.4
6H	8.2	8.6	8.6	9.0	9.4	7.5	8.0	8.0	8.4	8.8	7.5	8.0	8.0	8.4	8.8
8H	8.3	8.7	8.7	9.1	9.5	7.6	8.0	8.0	8.4	8.8	7.6	8.0	8.0	8.4	8.8
12H	8.3	8.7	8.8	9.1	9.6	7.5	7.9	8.0	8.3	8.8	7.5	7.9	8.0	8.3	8.8
12H 4H	7.7	8.2	8.2	8.6	9.0	7.2	7.7	7.6	8.0	8.4	7.2	7.7	7.6	8.0	8.4
6H	8.2	8.6	8.6	9.0	9.4	7.5	7.9	8.0	8.4	8.8	7.5	7.9	8.0	8.4	8.8
8H	8.3	8.6	8.8	9.1	9.5	7.6	7.9	8.1	8.4	8.8	7.6	7.9	8.1	8.4	8.8
Variations with the observer position at spacings:															
S = 1.0H	+ 0.6 / - 0.8					+ 0.7 / - 0.9									
1.5H	+ 1.0 / - 0.7					+ 1.1 / - 0.9									
2.0H	+ 1.1 / - 0.6					+ 1.1 / - 0.8									

CIE Pub.117 Corrected 477.3 lm Total Lamp Luminous Flux. (8log(F/F0) = -2.6)

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 Humidity: 65.0%
 Test Distance: 5.833m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

NAME: MR16 5W 2700K 30Degree	TYPE:	WEIGHT:
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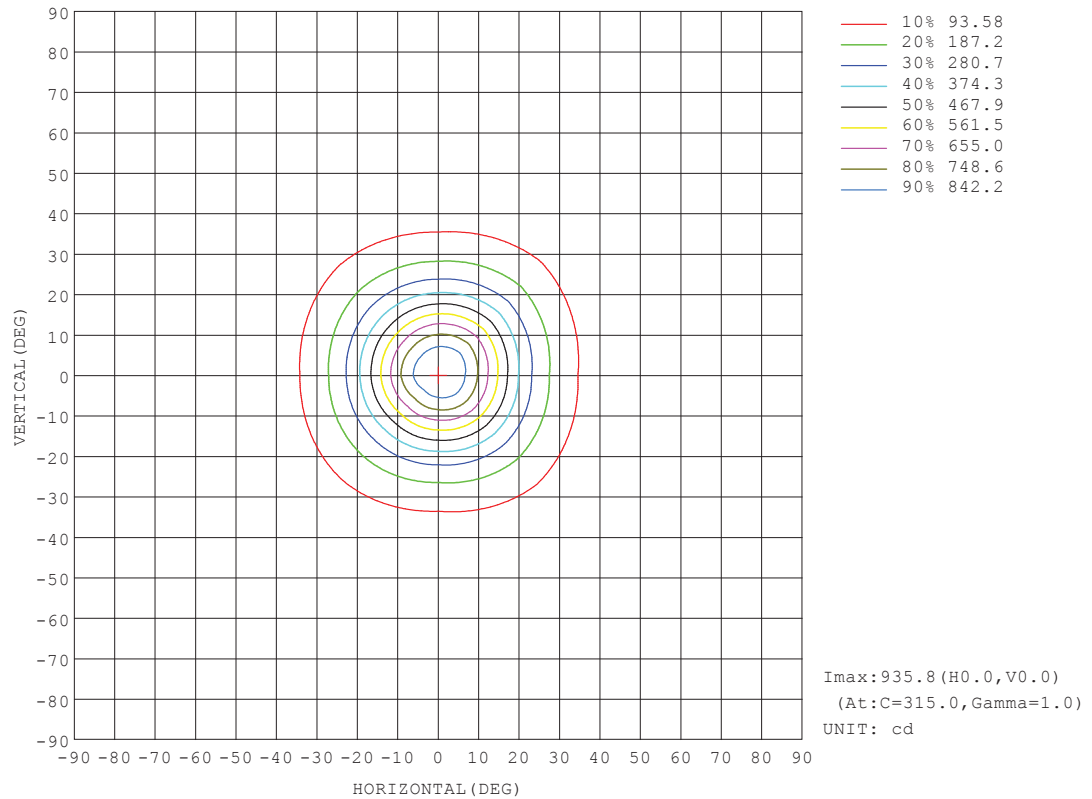
REFLECTANCE											
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0	
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0	
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$										
k = 0.60	81	74	70	80	74	70	79	73	69	66	
0.80	88	82	78	88	82	78	86	81	77	73	
1.00	93	87	83	92	87	83	91	87	82	78	
1.25	98	92	88	97	91	88	95	90	87	82	
1.50	101	95	91	99	95	91	97	93	90	85	
2.00	104	99	96	102	98	95	100	96	93	88	
2.50	106	102	98	104	100	97	101	98	95	89	
3.00	108	104	101	106	102	100	102	100	97	91	
4.00	110	107	104	108	105	103	104	102	100	93	
5.00	111	109	107	109	107	105	105	103	102	94	
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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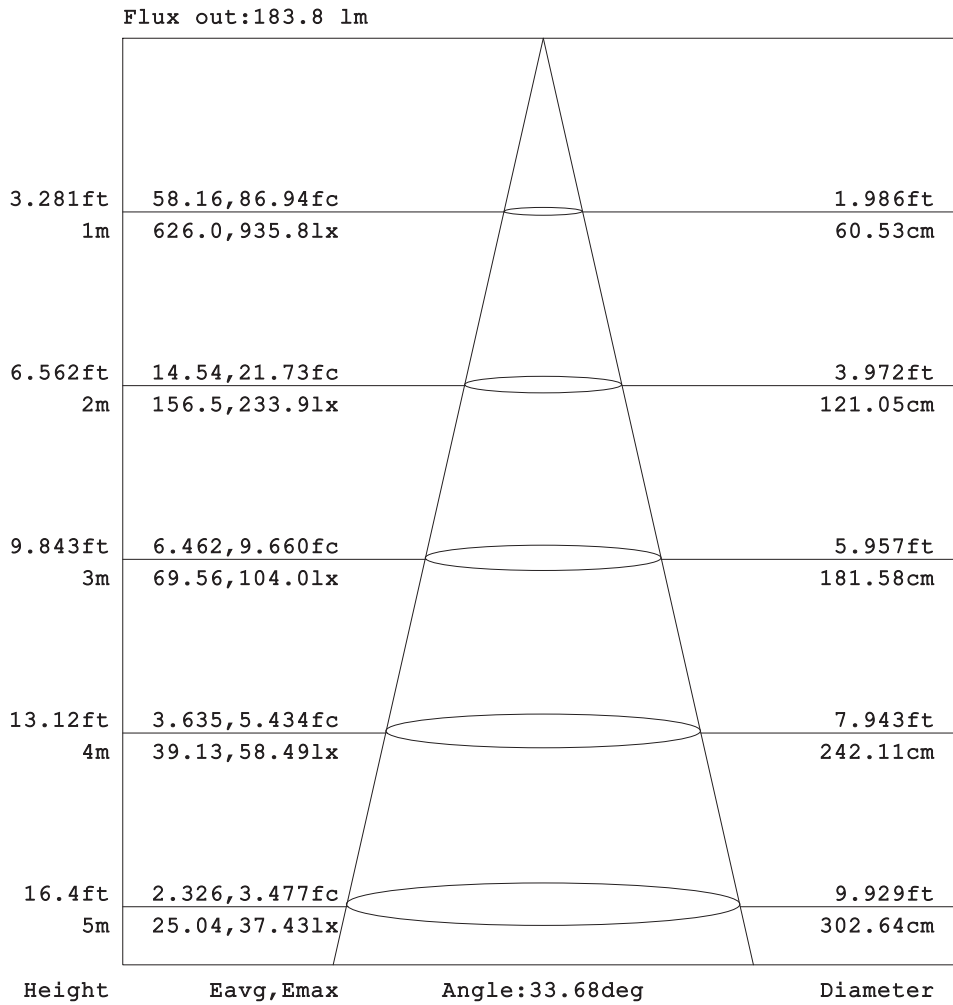


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AAI Figure

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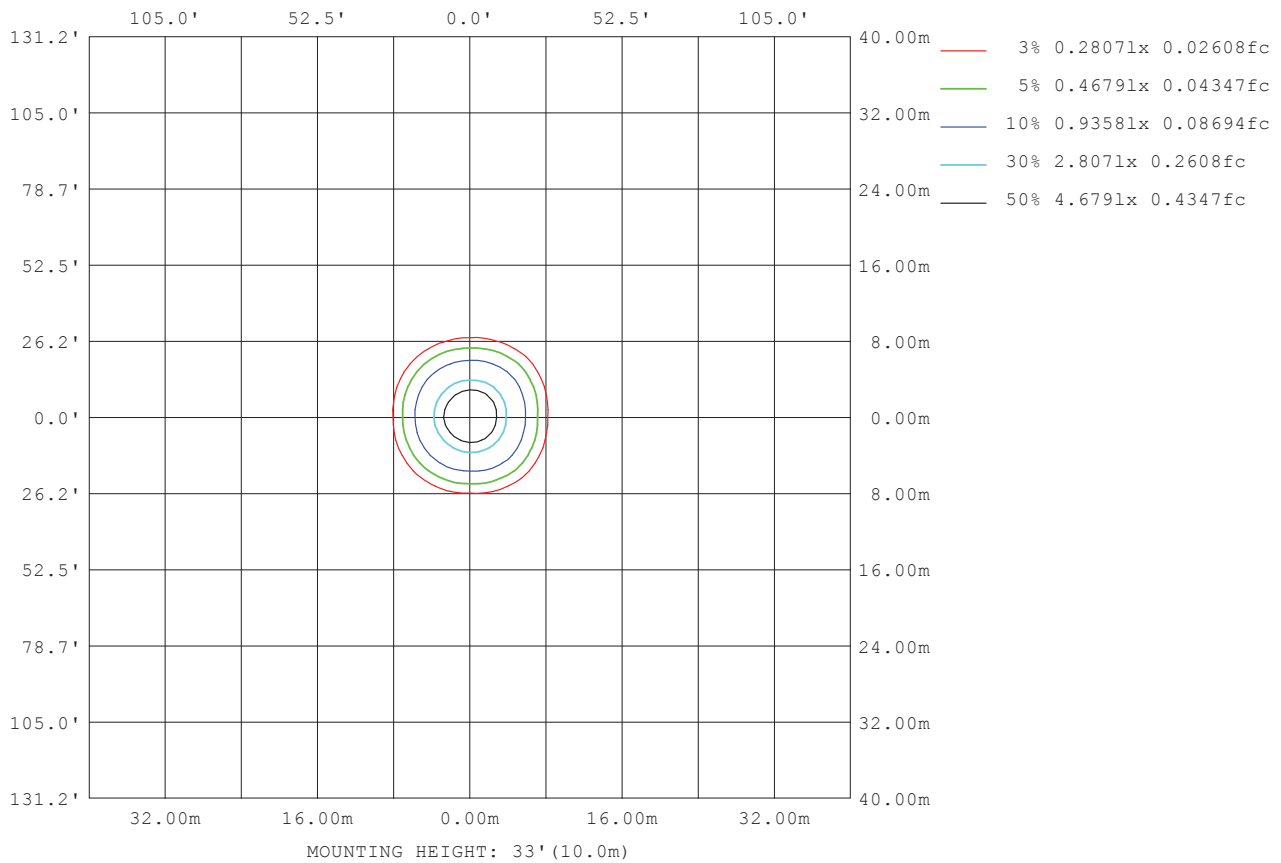
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

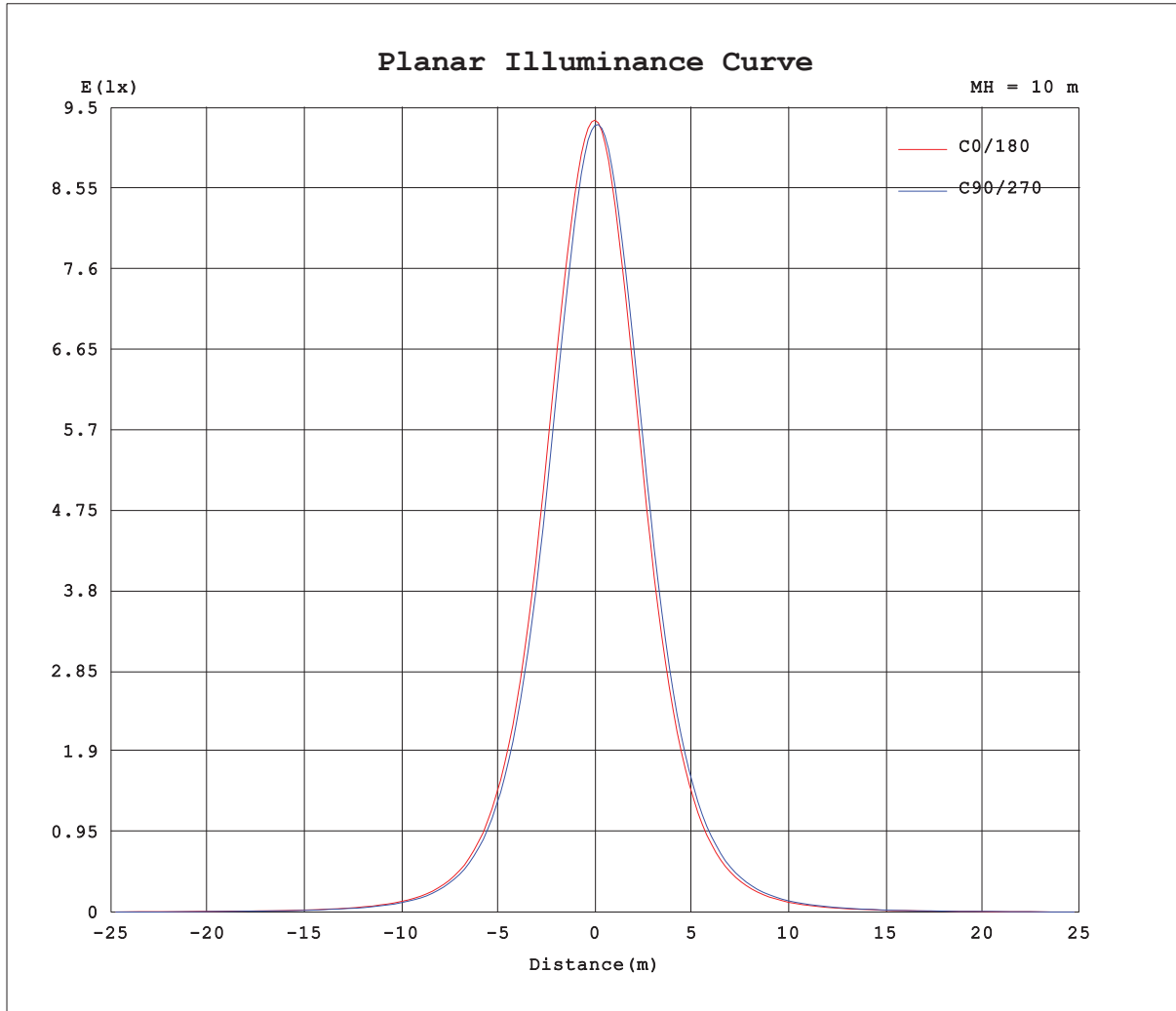
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Planar Illuminance Curve



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