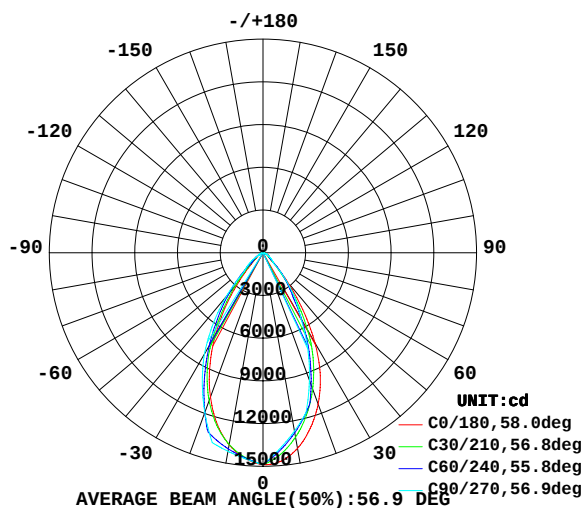


LUMINAIRE PHOTOMETRIC TEST REPORT

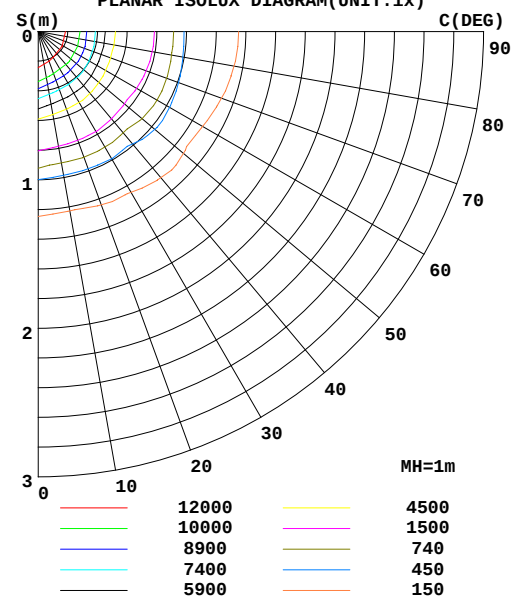
Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm		
NAME: GLM-MXHB100(AH) 60°	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 142.20 lm/W			
MODEL		I _{max} (cd)	14887	S/MH(C0/180)	0.86
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	0.94
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	13996	η UP, DN(C0-180)	0.0, 45.3
NOMINAL FLUX(lm)	13995.9	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 54.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.90

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



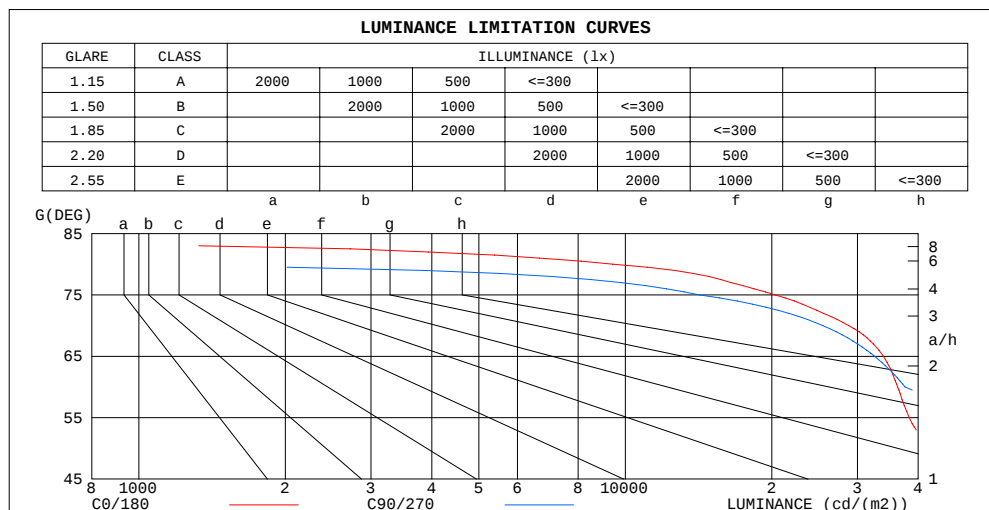
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-03-17

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:7.500m [K=1.1133]
 Remarks:

ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	ϕ zone	ϕ total	%lum, lamp
5	1469	1404	1380	1390	1450	1443	1452	1452	0- 5	346.6	346.6	2.48, 2.48
10	1395	1295	1272	1276	1369	1382	1416	1383	5- 10	989.5	1336	9.55, 9.55
15	1279	1167	1165	1148	1245	1297	1380	1293	10- 15	1531	2867	20.5, 20.5
20	1132	1023	954.7	1011	1080	1182	1195	1191	15- 20	1914	4781	34.2, 34.2
25	952.2	804.4	744.6	808.8	884.9	960.1	1009	1012	20- 25	2061	6842	48.9, 48.9
30	729.0	583.1	534.6	593.7	670.4	726.4	823.9	812.6	25- 30	1978	8820	63, 63
35	486.4	380.0	392.0	384.2	452.9	511.6	612.2	602.2	30- 35	1691	10511	75.1, 75.1
40	269.7	212.4	249.4	207.6	259.8	326.8	400.5	386.7	35- 40	1268	11779	84.2, 84.2
45	124.6	133.3	106.8	128.8	131.6	201.1	188.7	216.1	40- 45	807.4	12587	89.9, 89.9
50	65.79	81.60	85.43	80.68	73.76	113.1	139.0	105.5	45- 50	457.9	13045	93.2, 93.2
55	49.95	52.13	64.05	53.70	52.07	59.07	89.33	48.39	50- 55	309.0	13354	95.4, 95.4
60	41.20	41.18	42.66	42.01	39.70	44.29	39.63	39.18	55- 60	232.7	13586	97.1, 97.1
65	32.53	30.79	31.22	30.80	28.65	31.43	29.79	30.32	60- 65	174.5	13761	98.3, 98.3
70	22.37	20.55	19.78	20.13	17.50	20.16	19.95	20.98	65- 70	127.6	13889	99.2, 99.2
75	11.94	10.57	8.342	10.03	7.137	9.999	10.11	11.12	70- 75	77.08	13966	99.8, 99.8
80	3.713	1.944	0	1.324	0.0087	1.329	0	2.314	75- 80	28.53	13994	100, 100
85	0	0	0	0	0	0	0	0	80- 85	1.764	13996	100, 100
90	0	0	0	0	0	0	0	0	85- 90	0	13996	100, 100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY: $\times 10\text{cd}$									UNIT: lm		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	0	0
80	9420	0
75	20330	14199
70	28809	25481
65	33910	32547
60	36299	37590
55	38364	49190
50	45089	58546
45	77633	66541

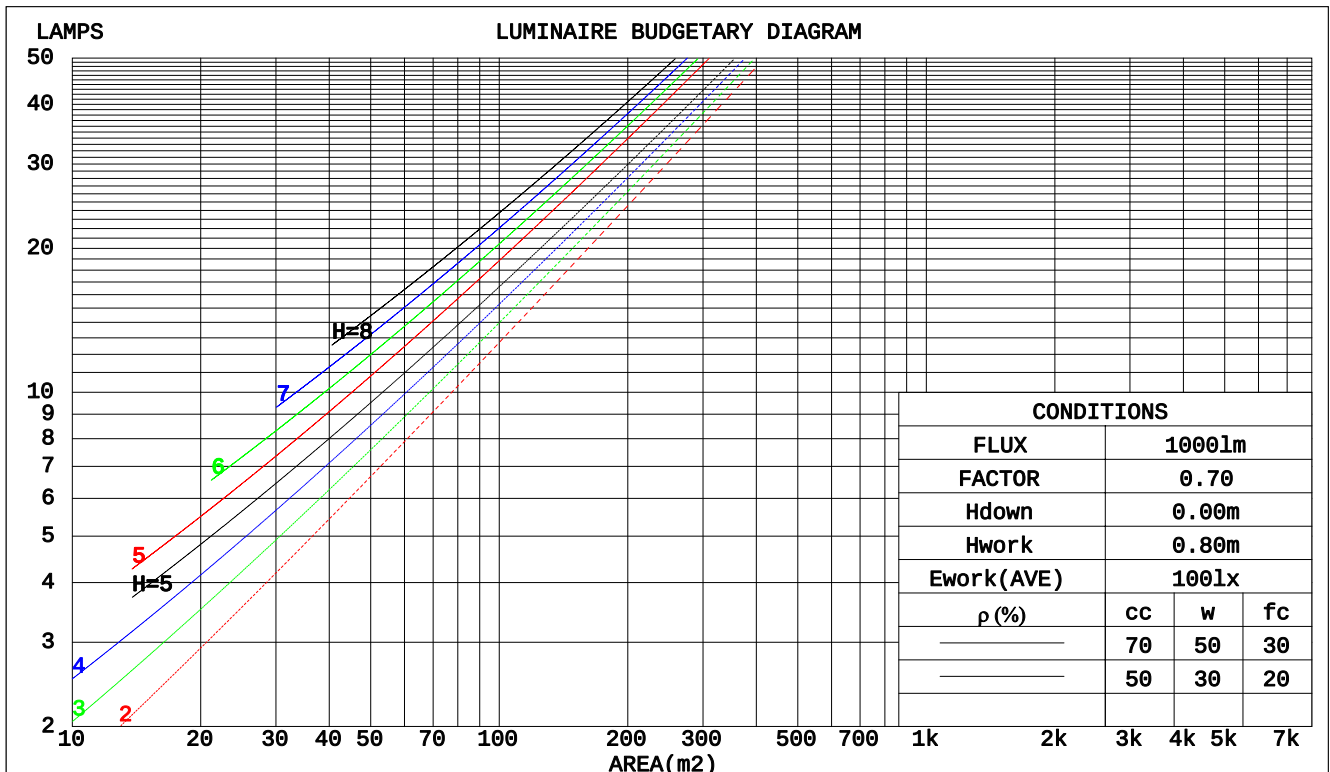
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-03-17

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.290
 Humidity: 65.0%
 Test Distance: 7.500m [K=1.1133]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm		
NAME: GLM-MXHB100(AH) 60°	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION 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			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	.00	.00	.98	.97	.96	.95	.94	.92
2.0	1.01	.97	.93	.00	.96	.92	.96	.93	.90	.93	.91	.88	.90	.88	.86	.85
3.0	.94	.88	.84	.92	.87	.83	.90	.85	.82	.87	.83	.80	.85	.82	.79	.78
4.0	.87	.81	.76	.86	.80	.76	.83	.79	.75	.81	.77	.74	.79	.76	.73	.71
5.0	.81	.74	.70	.80	.74	.69	.78	.73	.69	.76	.72	.68	.75	.71	.67	.66
6.0	.75	.69	.64	.74	.68	.64	.73	.67	.63	.71	.67	.63	.70	.66	.63	.61
7.0	.70	.64	.59	.70	.64	.59	.68	.63	.59	.67	.62	.59	.66	.62	.58	.57
8.0	.66	.60	.55	.65	.59	.55	.64	.59	.55	.63	.58	.55	.62	.58	.54	.53
9.0	.62	.56	.52	.62	.56	.51	.61	.55	.51	.60	.55	.51	.59	.54	.51	.49
10.0	.59	.52	.48	.58	.52	.48	.57	.52	.48	.56	.51	.48	.56	.51	.48	.46



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-03-17

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:7.500m [K=1.1133]
 Remarks:

WEC AND CCEC

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm									
NAME: GLM-MXHB100(AH) 60°					TYPE: LED			WEIGHT:	
SPEC.:					DIM.:			SERIAL No.:1	
MFR.:					SUR.:			PROTECTION 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	.194	.111	.035	.188	.107	.034	.175	.100	.032	.163	.094	.030	.153	.088	.029		
2.0	.188	.103	.032	.182	.100	.031	.171	.095	.030	.161	.090	.028	.152	.086	.027		
3.0	.179	.095	.028	.174	.093	.028	.165	.089	.027	.156	.085	.026	.148	.082	.025		
4.0	.170	.088	.026	.165	.087	.026	.157	.083	.025	.150	.081	.024	.143	.078	.024		
5.0	.161	.082	.024	.157	.081	.024	.150	.078	.023	.144	.076	.023	.138	.074	.022		
6.0	.153	.077	.022	.150	.076	.022	.144	.074	.021	.138	.072	.021	.132	.070	.021		
7.0	.146	.072	.020	.143	.071	.020	.137	.069	.020	.132	.068	.020	.127	.066	.019		
8.0	.139	.068	.019	.136	.067	.019	.131	.066	.019	.127	.064	.019	.122	.063	.018		
9.0	.133	.064	.018	.130	.063	.018	.126	.062	.018	.122	.061	.017	.118	.060	.017		
10.0	.127	.061	.017	.125	.060	.017	.121	.059	.017	.117	.058	.016	.113	.057	.016		

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	.172	.157	.143	.147	.135	.123	.101	.093	.085	.058	.054	.050	.019	.017	.016	
2.0	.158	.132	.111	.136	.114	.096	.093	.079	.067	.054	.046	.039	.017	.015	.013	
3.0	.147	.114	.087	.126	.098	.076	.086	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.137	.099	.070	.118	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.129	.088	.057	.111	.076	.050	.076	.053	.035	.044	.031	.021	.014	.010	.007	
6.0	.122	.079	.048	.105	.068	.042	.072	.048	.029	.042	.028	.018	.014	.009	.006	
7.0	.115	.071	.040	.099	.062	.035	.069	.043	.025	.040	.026	.015	.013	.008	.005	
8.0	.110	.065	.035	.094	.057	.030	.065	.040	.021	.038	.023	.013	.012	.008	.004	
9.0	.104	.060	.030	.090	.052	.026	.062	.037	.019	.036	.022	.011	.012	.007	.004	
10.0	.100	.056	.026	.086	.048	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-17

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.1133]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm											
NAME: GLM-MXHB100(AH) 60°					TYPE:LED			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:1			
MFR.:					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	
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	23.6	24.6	23.8	24.8	25.0	23.6	24.6	23.8	24.8	25.0	
	3H	23.9	24.8	24.1	25.0	25.3	23.9	24.9	24.2	25.1	25.3
	4H	23.9	24.8	24.2	25.1	25.3	23.9	24.8	24.2	25.1	25.3
	6H	23.9	24.8	24.2	25.0	25.3	23.9	24.7	24.2	25.0	25.2
	8H	23.9	24.7	24.2	24.9	25.2	23.8	24.6	24.1	24.9	25.2
	12H	23.8	24.6	24.1	24.9	25.1	23.8	24.5	24.1	24.8	25.1
4H	2H	23.6	24.5	23.9	24.7	25.0	23.6	24.5	23.9	24.8	25.0
	3H	24.0	24.8	24.4	25.1	25.4	24.1	24.9	24.4	25.1	25.4
	4H	24.2	24.9	24.5	25.2	25.5	24.1	24.8	24.5	25.2	25.5
	6H	24.1	24.8	24.5	25.1	25.4	24.1	24.7	24.5	25.0	25.4
	8H	24.1	24.7	24.5	25.0	25.4	24.0	24.6	24.4	25.0	25.3
	12H	24.0	24.6	24.4	24.9	25.3	24.0	24.5	24.4	24.9	25.3
8H	4H	24.1	24.7	24.5	25.0	25.4	24.1	24.7	24.5	25.0	25.4
	6H	24.1	24.6	24.5	25.0	25.4	24.0	24.5	24.5	24.9	25.3
	8H	24.0	24.5	24.5	24.9	25.3	24.0	24.4	24.4	24.8	25.3
	12H	24.0	24.4	24.5	24.8	25.3	23.9	24.3	24.4	24.7	25.2
12H	4H	24.1	24.6	24.5	25.0	25.4	24.0	24.6	24.5	24.9	25.3
	6H	24.0	24.5	24.5	24.9	25.3	24.0	24.4	24.4	24.8	25.3
	8H	24.0	24.4	24.5	24.8	25.3	23.9	24.3	24.4	24.7	25.2
Variations with the observer position at spacings:											
S = 1.0H	+ 2.4 / - 2.5					+ 1.6 / - 2.3					
1.5H	+ 4.2 / - 2.2					+ 3.1 / - 1.9					
2.0H	+ 2.6 / - 0.8					+ 1.3 / - 1.1					

CIE Pub.117 Corrected 13996 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.2)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-17

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.1133]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm		
NAME: GLM-MXHB100(AH) 60°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	82	74	70	81	74	70	80	74	70	65
0.80	90	83	78	89	83	78	88	82	78	74
1.00	95	89	84	94	88	84	93	88	84	79
1.25	100	94	90	99	93	89	97	92	89	84
1.50	103	98	94	102	97	93	99	95	92	87
2.00	107	102	98	105	101	97	102	99	96	90
2.50	109	104	101	107	103	100	104	100	98	92
3.00	110	107	103	109	105	102	105	102	100	93
4.00	113	110	107	111	108	106	107	105	103	96
5.00	114	111	109	112	110	108	108	106	105	97
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-17

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.1133]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm		
NAME: GLM-MXHB100(AH) 60°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

12587 lm

%lum = 89.9%

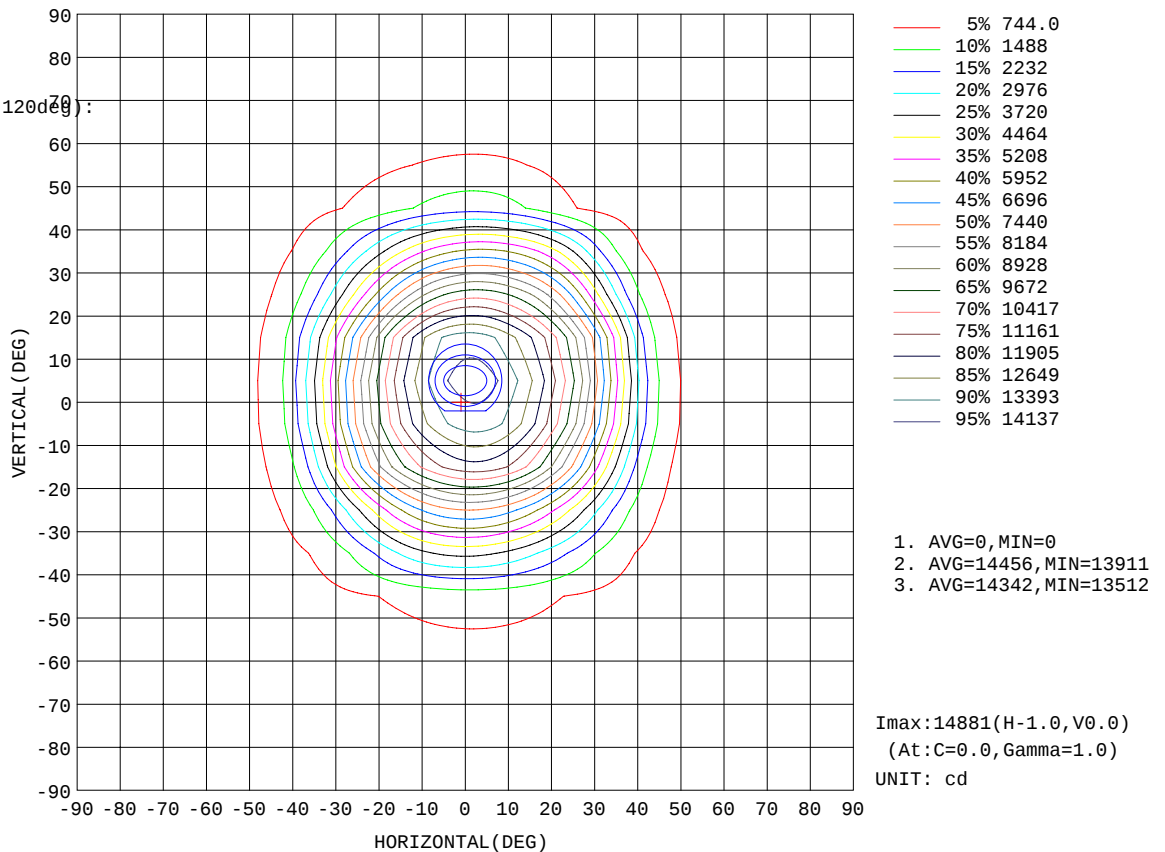
%lamp = 89.9%

Conical surface Flux(120deg):

13586 lm

%lum = 97.1%

%lamp = 97.1%

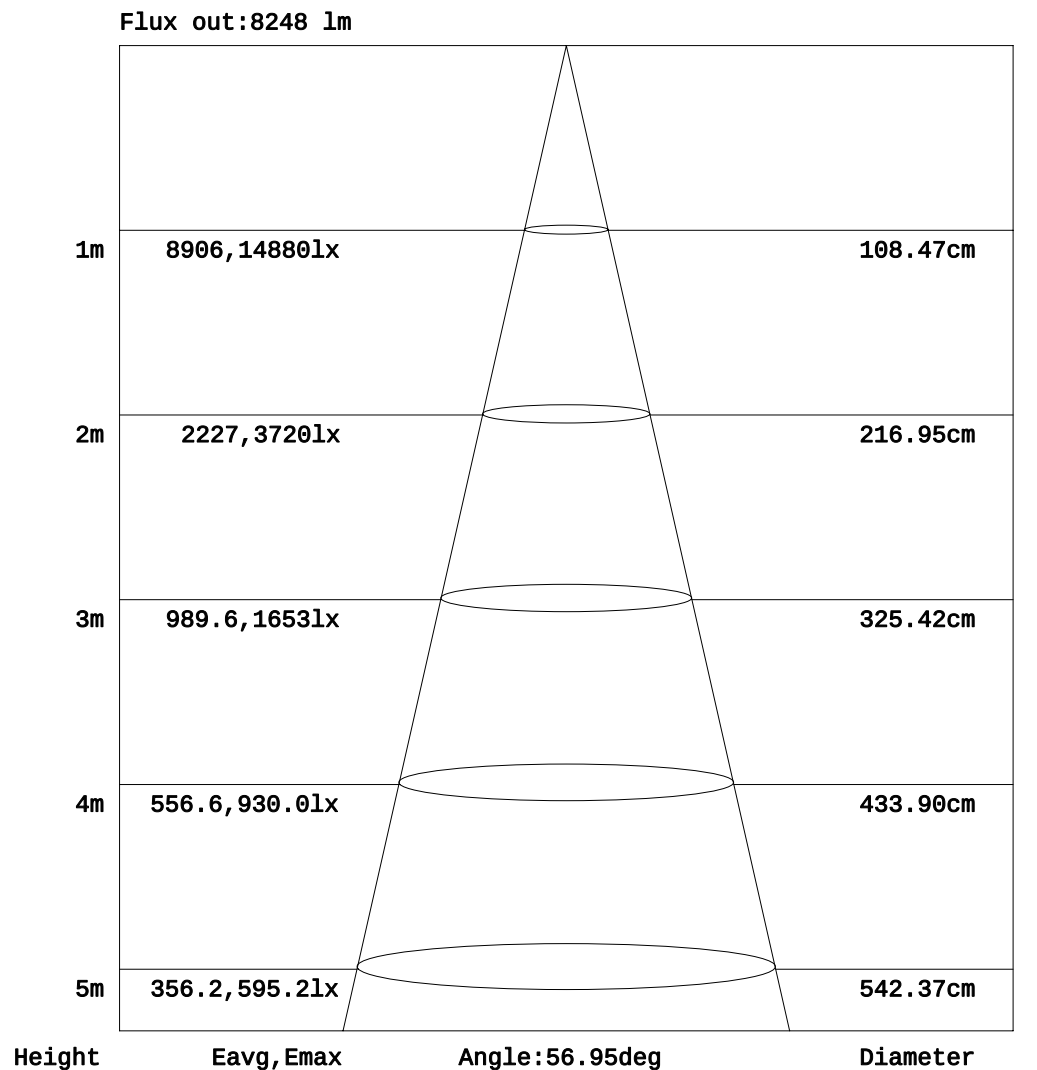


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-17

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.1133]
Remarks:

AAI Figure

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm		
NAME: GLM-MXHB100(AH) 60°	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:



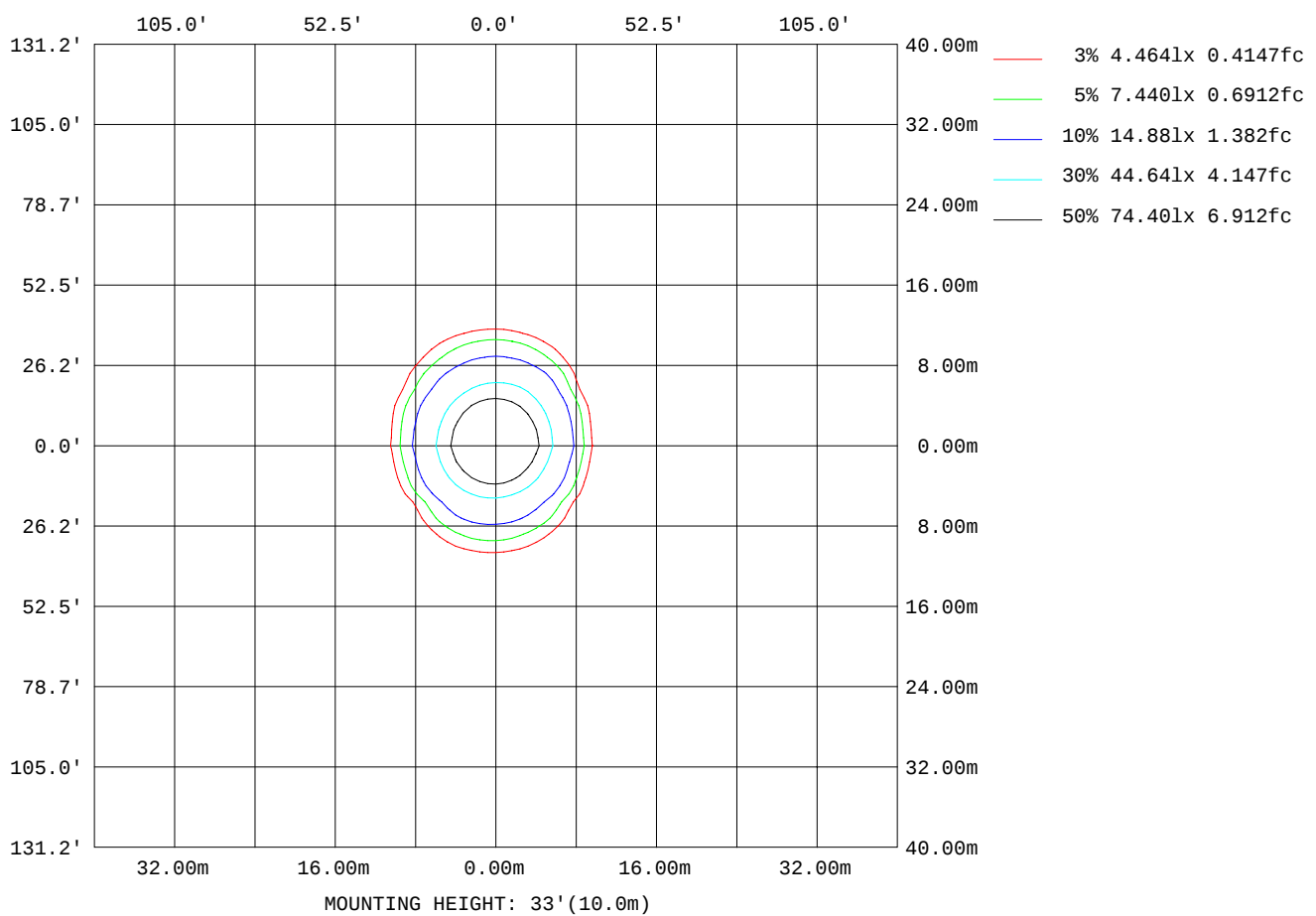
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-03-17

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:7.500m [K=1.1133]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm		
NAME: GLM-MXHB100(AH) 60°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-17

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.1133]
Remarks:

LED Avg.L Report

Test:U:220.1V I:0.4539A P:98.43W PF:0.9851 Lamp Flux:13995.9x1 lm		
NAME: GLM-MXHB100(AH) 60°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

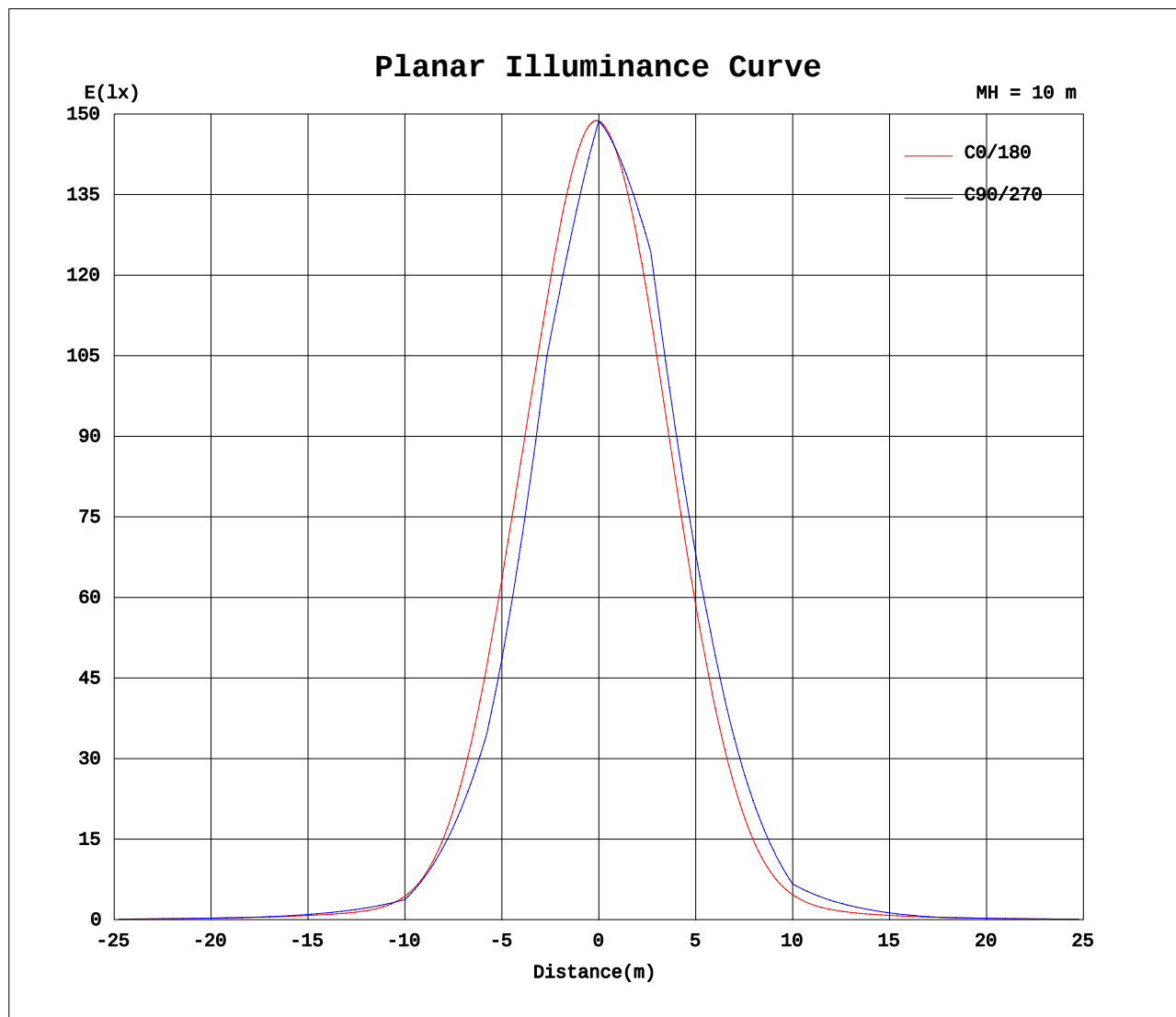
AvgL	cd/m2
L_0~180(65)av	31886
L_0~180(75)av	16238
L_0~180(85)av	0
L_90~270(65)av	31799
L_90~270(75)av	15700
L_90~270(85)av	0
L_45(65)av	32142
L_45(75)av	17753
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-17

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.1133]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2020-03-17

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity: 65.0%
Test Distance: 7.500m [K=1.1133]
Remarks:

