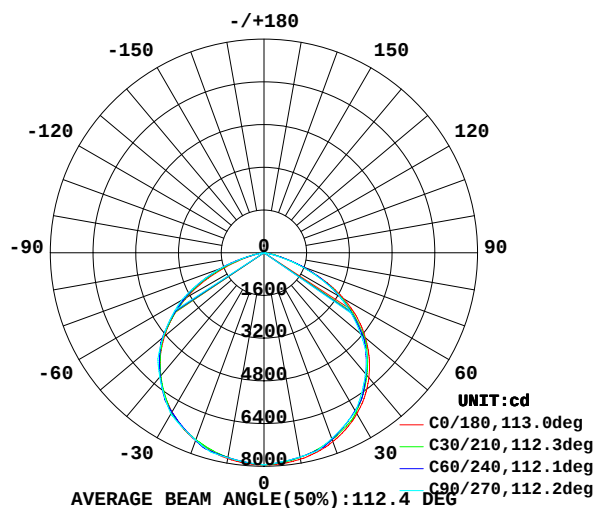


LUMINAIRE PHOTOMETRIC TEST REPORT

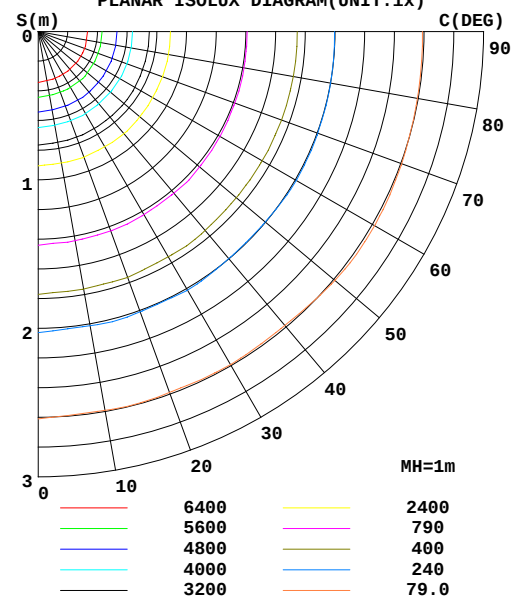
Test:U:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm		
NAME: GLM-MXHB150(AH) 120°	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 147.35 lm/W			
MODEL		I _{max} (cd)	7947	S/MH(C0/180)	1.29
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	21500	η UP, DN(C0-180)	0.0, 49.3
NOMINAL FLUX(lm)	21499.9	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



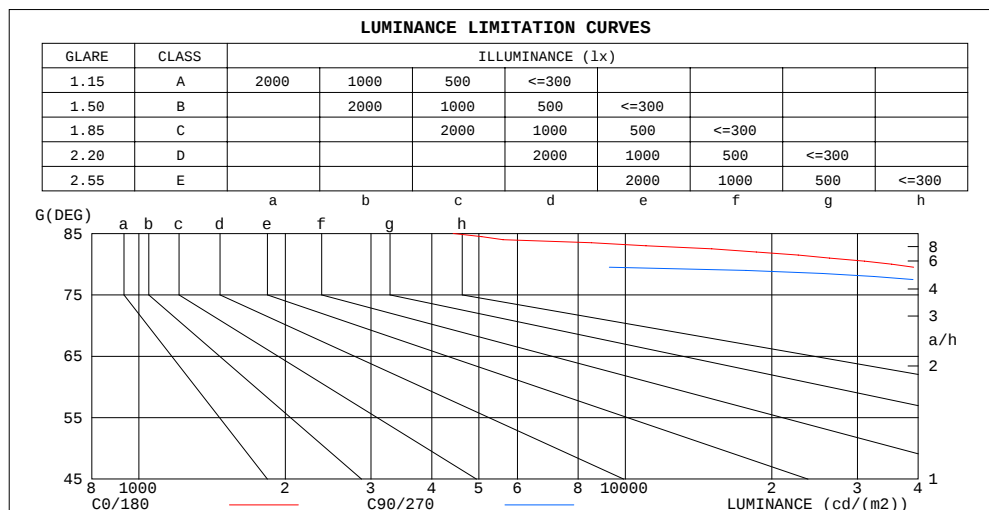
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-03-18

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	7928	7870	7857	7863	7914	7875	7871	7881	0- 5	189.0	189.0	0.88,0.88
10	7853	7772	7769	7754	7828	7783	7798	7790	5- 10	560.3	749.2	3.48,3.48
15	7718	7639	7681	7622	7683	7657	7724	7672	10- 15	916.6	1666	7.75,7.75
20	7528	7482	7406	7458	7482	7511	7474	7523	15- 20	1247	2913	13.5,13.5
25	7277	7181	7131	7147	7226	7212	7223	7236	20- 25	1536	4449	20.7,20.7
30	6956	6829	6856	6795	6891	6870	6973	6906	25- 30	1781	6230	29,29
35	6574	6458	6386	6403	6492	6498	6522	6546	30- 35	1969	8198	38.1,38.1
40	6107	6032	5916	5970	6024	6082	6072	6128	35- 40	2085	10283	47.8,47.8
45	5573	5432	5446	5370	5489	5496	5622	5552	40- 45	2130	12413	57.7,57.7
50	4957	4812	4723	4750	4867	4902	4938	4950	45- 50	2095	14507	67.5,67.5
55	4265	4161	4001	4098	4155	4275	4254	4308	50- 55	1962	16469	76.6,76.6
60	3443	3269	3278	3184	3337	3415	3570	3454	55- 60	1740	18209	84.7,84.7
65	2525	2370	2380	2261	2404	2538	2655	2579	60- 65	1423	19633	91.3,91.3
70	1533	1532	1482	1427	1431	1676	1739	1707	65- 70	1019	20652	96.1,96.1
75	713.0	807.4	584.4	743.1	634.0	884.5	823.9	907.1	70- 75	596.6	21248	98.8,98.8
80	211.9	180.1	0	158.1	145.2	196.5	0	209.7	75- 80	225.9	21474	99.9,99.9
85	13.35	0	0	0	0	0	0	0	80- 85	24.92	21499	100,100
90	13.12	0	0	0	0.3322	0	0	0	85- 90	0.8159	21500	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:cd									UNIT:lm		



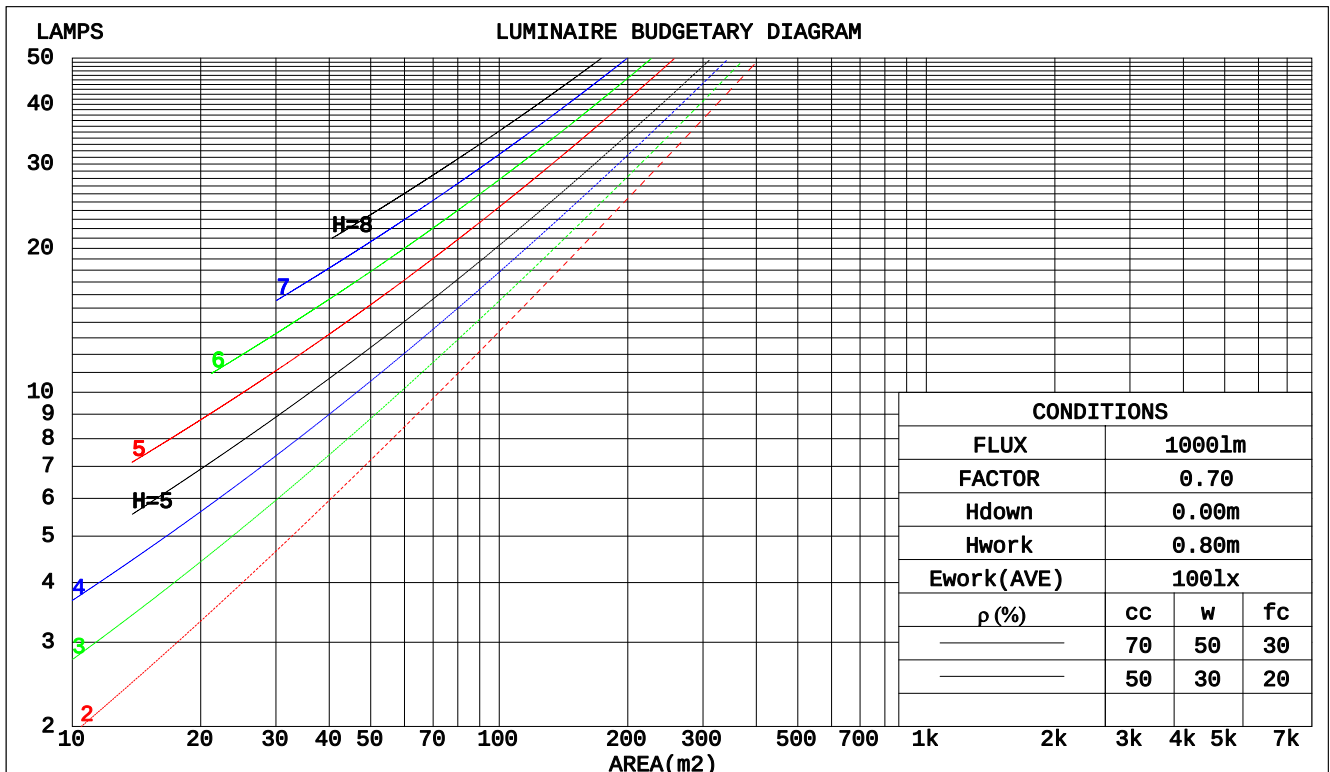
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm		
NAME: GLM-MXHB150(AH) 120°	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	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	.00
1.0	1.06	1.02	.99	1.03	1.00	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.87	.81	.91	.85	.80	.88	.83	.78	.84	.80	.77	.81	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.70	.65	.72	.68	.64	.62
4.0	.73	.64	.58	.71	.64	.57	.69	.62	.57	.67	.61	.56	.65	.59	.55	.53
5.0	.65	.56	.50	.64	.56	.50	.62	.55	.49	.60	.54	.49	.58	.53	.48	.46
6.0	.59	.50	.44	.58	.49	.43	.56	.48	.43	.54	.48	.43	.53	.47	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.38	.36
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.44	.36	.31	.44	.36	.31	.43	.36	.31	.42	.35	.30	.41	.35	.30	.28
10.0	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.38	.32	.27	.26



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm									
NAME: GLM-MXHB150(AH) 120°					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	.274	.156	.049	.267	.152	.048	.254	.146	.047	.242	.140	.045	.231	.134	.043	
2.0	.268	.147	.045	.262	.144	.044	.250	.139	.043	.240	.134	.042	.230	.130	.041	
3.0	.253	.135	.040	.248	.133	.040	.238	.129	.039	.228	.125	.038	.220	.122	.038	
4.0	.237	.123	.036	.232	.122	.036	.223	.118	.035	.215	.115	.035	.207	.113	.034	
5.0	.221	.113	.033	.217	.112	.032	.209	.109	.032	.202	.106	.032	.195	.104	.031	
6.0	.207	.104	.030	.203	.103	.030	.196	.100	.029	.189	.098	.029	.183	.096	.029	
7.0	.194	.096	.027	.190	.095	.027	.184	.093	.027	.178	.091	.027	.172	.089	.026	
8.0	.182	.089	.025	.179	.088	.025	.173	.086	.025	.167	.085	.024	.162	.083	.024	
9.0	.171	.083	.023	.168	.082	.023	.163	.081	.023	.158	.079	.023	.153	.078	.023	
10.0	.161	.077	.021	.158	.077	.021	.154	.075	.021	.149	.074	.021	.145	.073	.021	

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	.178	.156	.137	.152	.134	.118	.104	.092	.082	.060	.053	.047	.019	.017	.015		
2.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012		
3.0	.161	.114	.077	.138	.099	.066	.095	.068	.047	.055	.040	.027	.018	.013	.009		
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007		
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006		
6.0	.140	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005		
7.0	.133	.075	.034	.115	.065	.030	.079	.046	.021	.046	.027	.012	.015	.009	.004		
8.0	.127	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004		
9.0	.121	.064	.026	.105	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003		
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm											
NAME: GLM-MXHB150(AH) 120°						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		31.5	33.0	31.8	33.2	33.4	31.4	32.8	31.6	33.0	33.2
	3H	32.4	33.8	32.7	34.0	34.3	32.3	33.7	32.6	33.9	34.1
	4H	32.6	33.9	32.9	34.1	34.4	32.4	33.7	32.7	33.9	34.2
	6H	32.6	33.8	32.9	34.0	34.3	32.3	33.5	32.7	33.8	34.1
	8H	32.5	33.7	32.9	34.0	34.2	32.3	33.5	32.6	33.7	34.0
	12H	32.5	33.6	32.8	33.9	34.2	32.2	33.4	32.6	33.6	33.9
4H	2H	32.0	33.3	32.3	33.5	33.8	31.8	33.1	32.1	33.4	33.6
	3H	33.0	34.1	33.3	34.4	34.7	32.9	34.0	33.3	34.3	34.6
	4H	33.2	34.2	33.5	34.5	34.8	33.1	34.1	33.4	34.4	34.7
	6H	33.2	34.1	33.6	34.4	34.8	33.0	33.9	33.4	34.3	34.6
	8H	33.2	34.0	33.6	34.3	34.7	33.0	33.8	33.4	34.2	34.5
	12H	33.1	33.9	33.5	34.2	34.6	32.9	33.7	33.4	34.1	34.5
8H	4H	33.2	34.0	33.6	34.4	34.8	33.1	33.9	33.5	34.3	34.7
	6H	33.3	33.9	33.7	34.3	34.8	33.1	33.7	33.5	34.1	34.6
	8H	33.2	33.8	33.7	34.3	34.7	33.0	33.6	33.5	34.0	34.5
	12H	33.2	33.7	33.7	34.2	34.6	33.0	33.5	33.5	33.9	34.4
12H	4H	33.2	33.9	33.6	34.3	34.7	33.1	33.8	33.5	34.2	34.6
	6H	33.2	33.8	33.7	34.2	34.7	33.0	33.6	33.5	34.1	34.5
	8H	33.2	33.7	33.7	34.2	34.6	33.0	33.5	33.5	34.0	34.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4					
1.5H	+ 0.3 / - 0.5					+ 0.3 / - 0.6					
2.0H	+ 0.5 / - 0.6					+ 0.5 / - 0.4					

CIE Pub.117 Corrected 21500 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm		
NAME: GLM-MXHB150(AH) 120°	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	59	48	41	58	47	41	57	47	40	34
0.80	69	58	51	68	58	51	67	57	51	44
1.00	78	68	61	77	67	60	75	68	60	53
1.25	85	76	69	84	75	68	81	73	68	61
1.50	90	81	75	89	80	74	86	79	73	66
2.00	97	89	83	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	86	78
3.00	104	98	93	102	96	92	98	93	90	82
4.00	108	103	99	105	101	97	101	98	95	86
5.00	110	106	102	108	104	101	103	100	97	89
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:2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm		
NAME: GLM-MXHB150(AH) 120°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

12413 lm

%lum = 57.7%

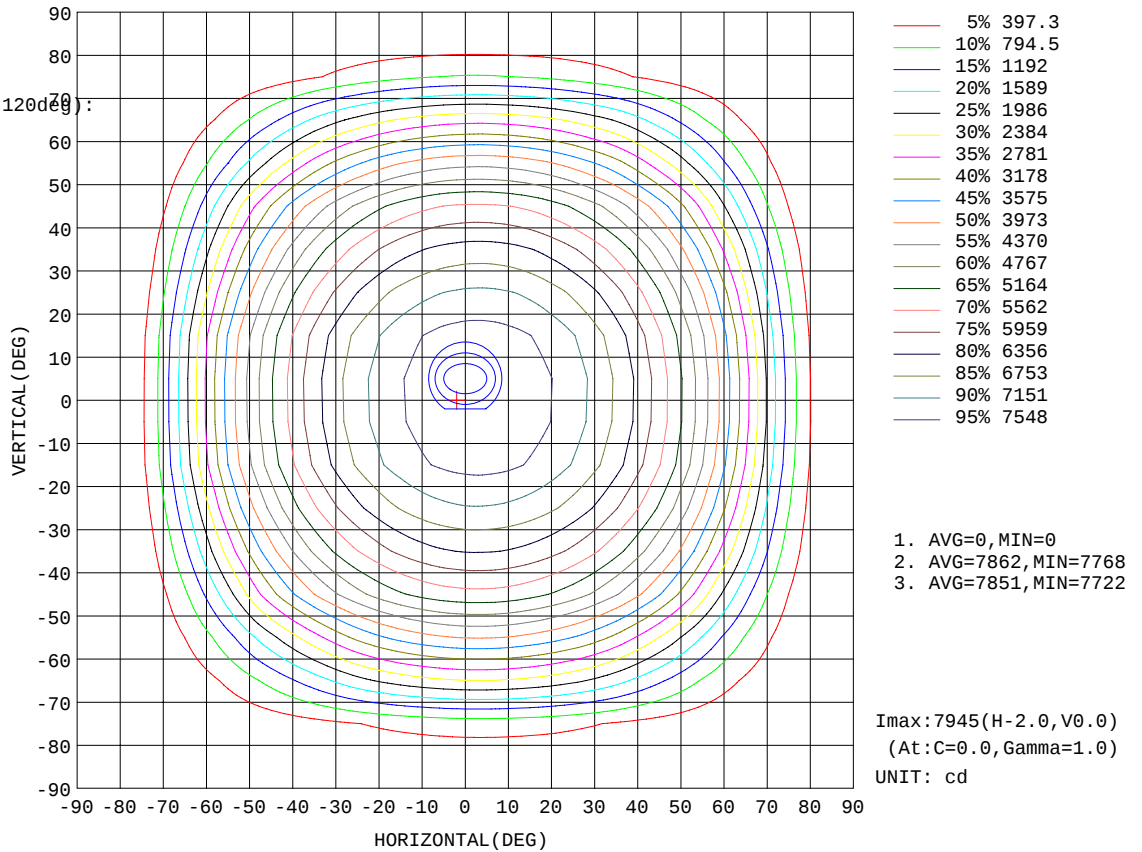
%lamp = 57.7%

Conical surface Flux(120deg):

18209 lm

%lum = 84.7%

%lamp = 84.7%

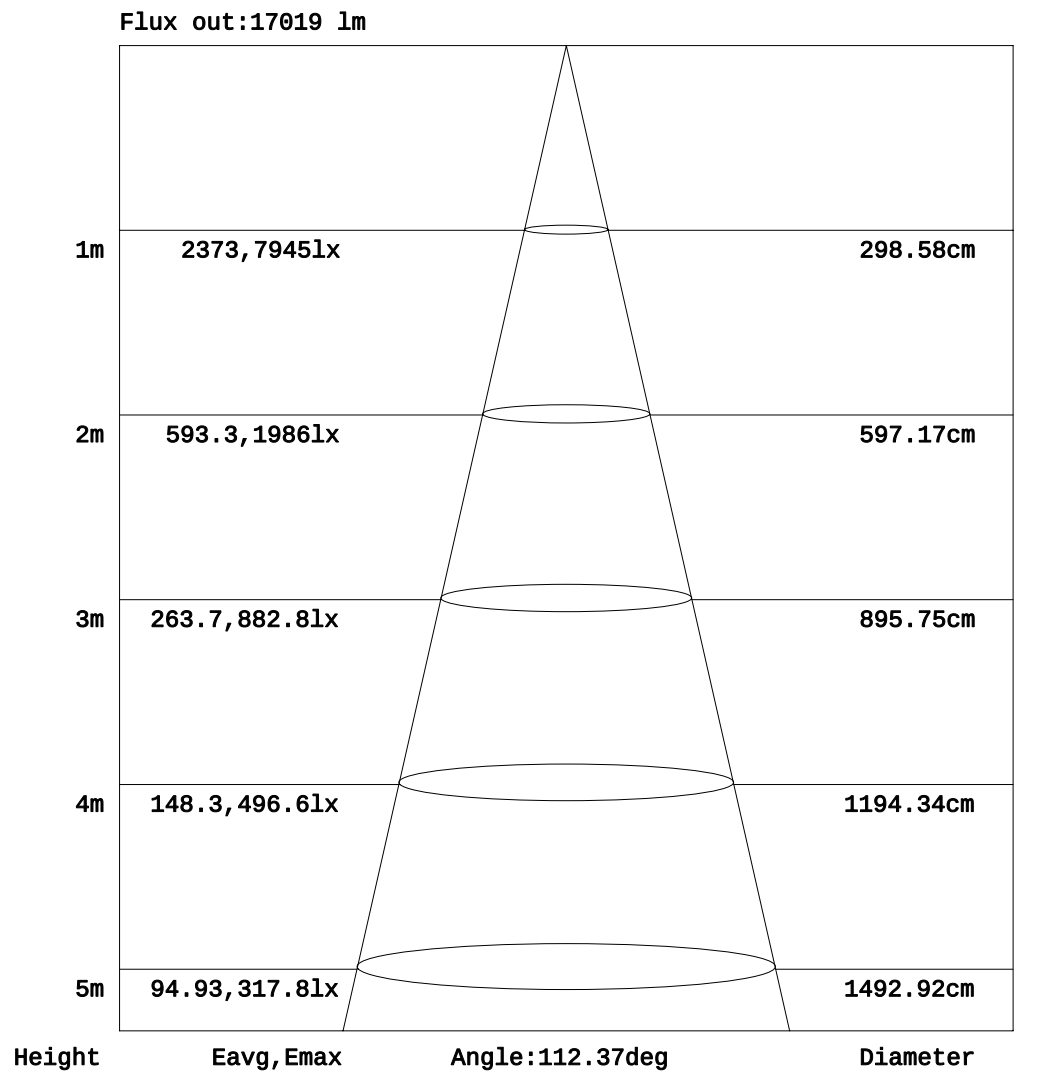


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm		
NAME: GLM-MXHB150(AH) 120°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:



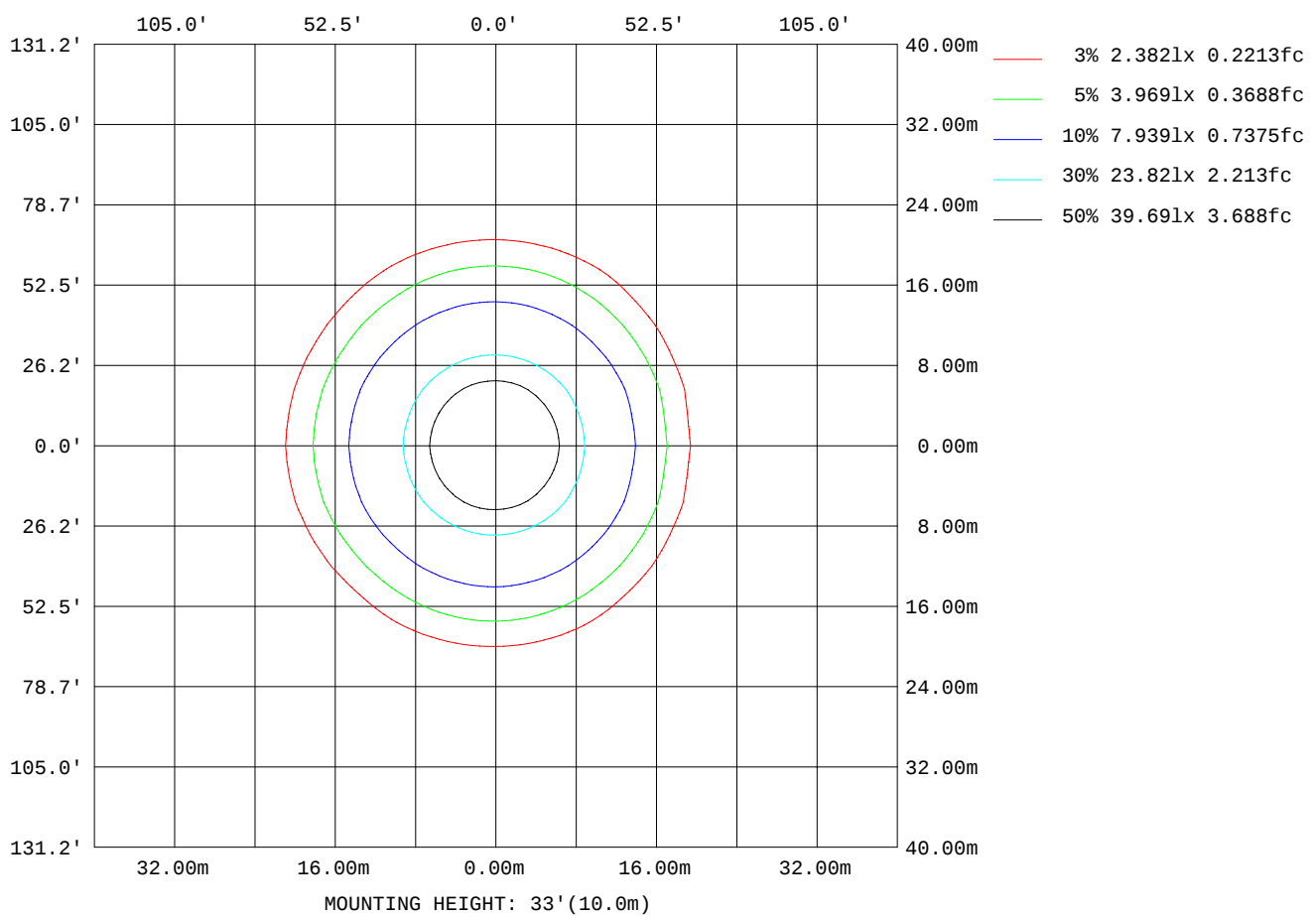
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm		
NAME: GLM-MXHB150(AH) 120°	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: 2020-03-18

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:220.2V I:0.6825A P:145.9W PF:0.9710 Lamp Flux:21499.9x1 lm		
NAME: GLM-MXHB150(AH) 120°	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

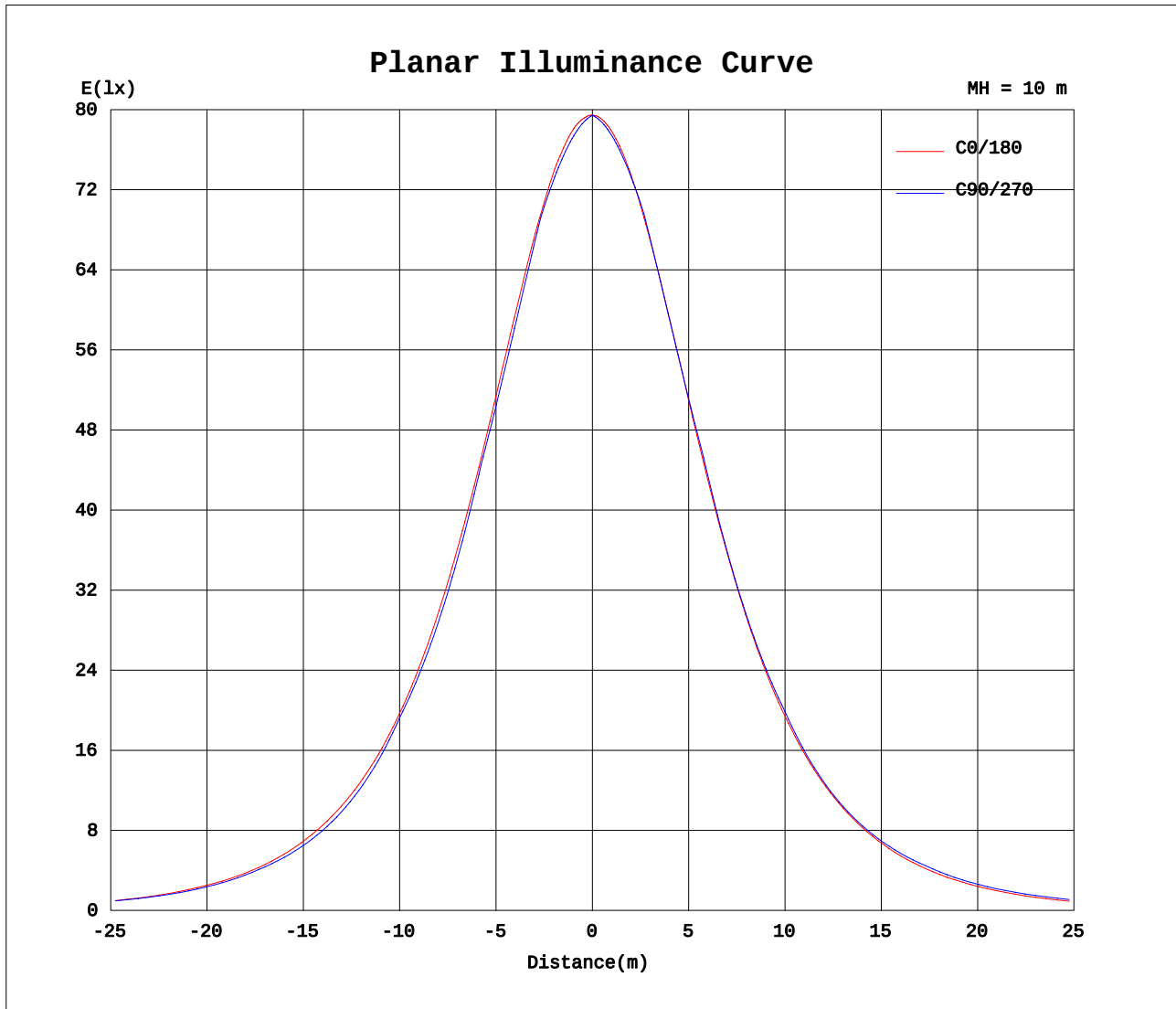
AvgL	cd/m2
L_0~180(65)av	168563
L_0~180(75)av	75206
L_0~180(85)av	2213
L_90~270(65)av	172163
L_90~270(75)av	78631
L_90~270(85)av	0
L_45(65)av	166663
L_45(75)av	93301
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-18

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: 2020-03-18

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:

