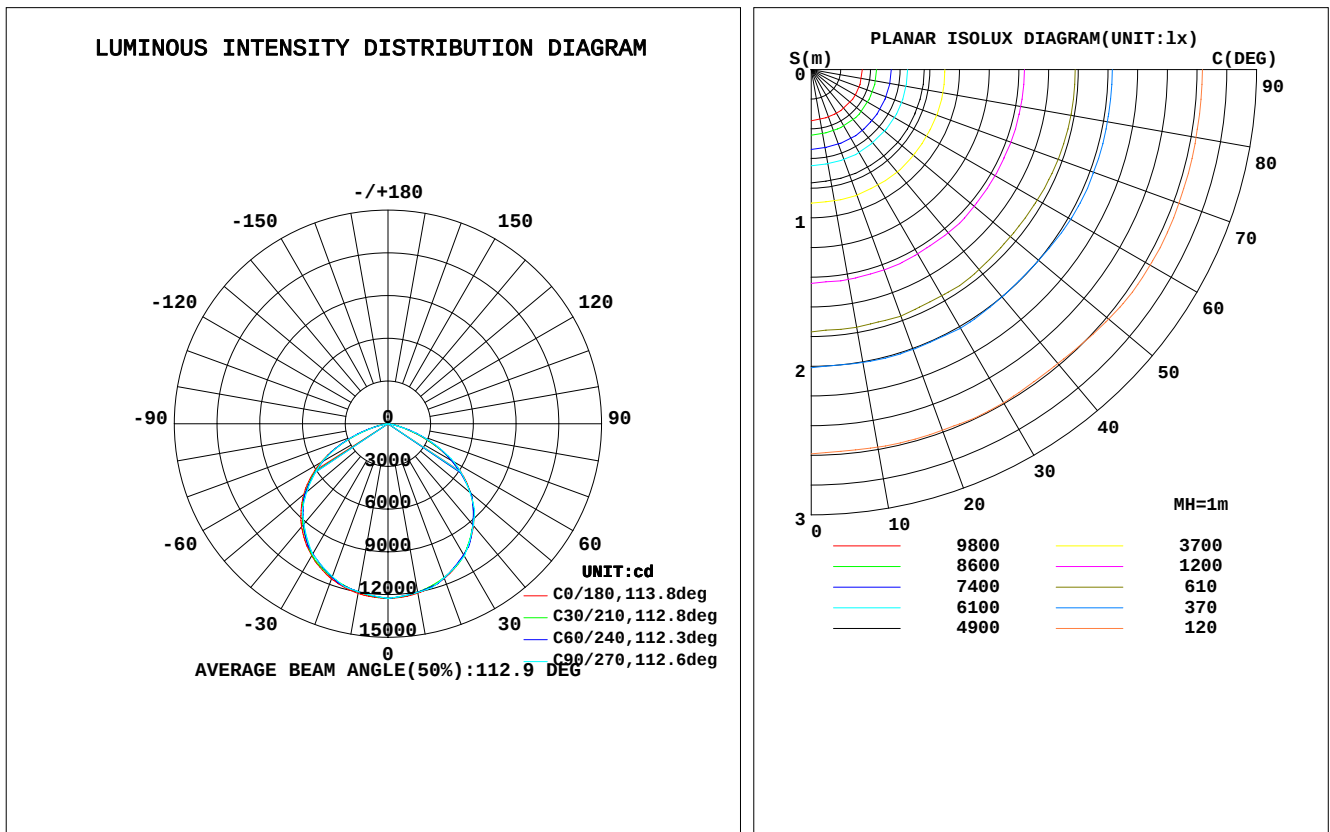


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm		
NAME: GLM-MXHB240(AH) 120°	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 142.81 lm/W			
MODEL		I _{max} (cd)	12260	S/MH(C0/180)	1.30
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	33290	η UP, DN(C0-180)	0.0, 50.2
NOMINAL FLUX(lm)	33289.6	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 49.8
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



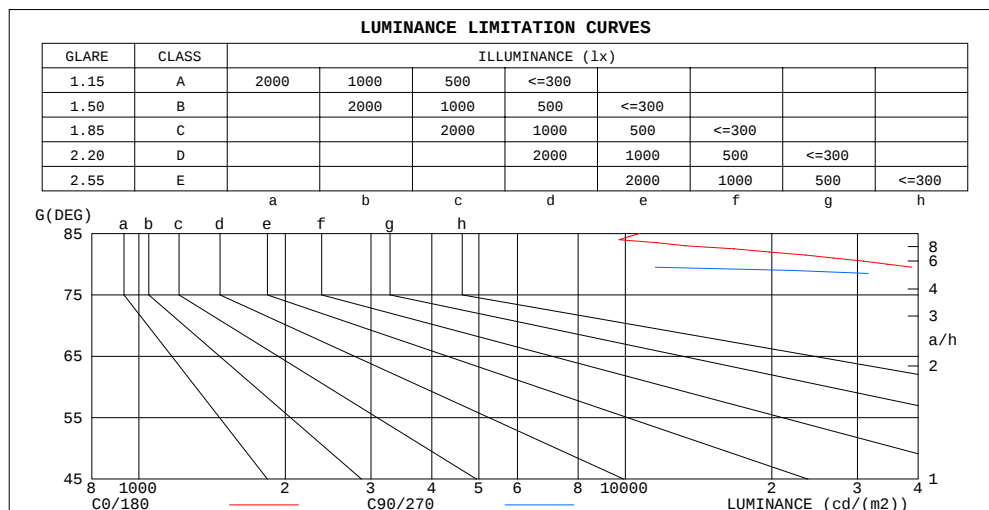
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-18

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=1.1573]
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	1221	1215	1214	1215	1221	1213	1212	1213	0- 5	291.5	291.5	0.88,0.88
10	1208	1200	1203	1201	1210	1198	1198	1197	5- 10	864.0	1155	3.47,3.47
15	1186	1180	1191	1184	1189	1178	1183	1175	10- 15	1413	2569	7.72,7.72
20	1156	1157	1151	1162	1159	1153	1142	1150	15- 20	1923	4491	13.5,13.5
25	1115	1112	1112	1116	1119	1108	1100	1104	20- 25	2369	6860	20.6,20.6
30	1064	1058	1072	1064	1070	1054	1059	1049	25- 30	2745	9605	28.9,28.9
35	1004	1001	1001	1007	1013	997.3	988.6	991.3	30- 35	3036	12640	38,38
40	933.6	936.4	930.8	945.1	944.1	931.7	918.6	926.0	35- 40	3217	15858	47.6,47.6
45	851.2	845.1	860.3	854.2	862.9	845.4	848.6	835.7	40- 45	3291	19149	57.5,57.5
50	756.8	749.9	752.0	763.0	772.1	753.7	743.6	742.4	45- 50	3244	22393	67.3,67.3
55	648.9	649.7	643.6	666.4	665.4	658.9	638.7	644.1	50- 55	3047	25440	76.4,76.4
60	522.4	508.7	535.3	528.9	545.0	526.3	533.7	508.3	55- 60	2713	28153	84.6,84.6
65	372.2	365.5	390.1	387.9	402.1	390.0	391.8	370.6	60- 65	2222	30375	91.2,91.2
70	223.9	234.0	244.9	253.3	244.5	256.1	250.0	237.9	65- 70	1589	31964	96,96
75	100.5	123.5	99.68	136.3	115.1	136.3	108.2	123.4	70- 75	925.2	32890	98.8,98.8
80	28.49	28.10	0	34.38	32.39	32.55	0	26.24	75- 80	352.8	33242	99.9,99.9
85	4.430	0	0	0	0.0181	0	0	0	80- 85	44.96	33287	100,100
90	4.450	0	0	0	2.279	0	0	0	85- 90	2.269	33290	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			
LUMINOUS INTENSITY:×10cd									UNIT:lm			



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10700	0
80	34536	0
75	81738	81082
70	137831	150740
65	185424	194328
60	219955	225394
55	238162	236241
50	247879	246283
45	253417	256133

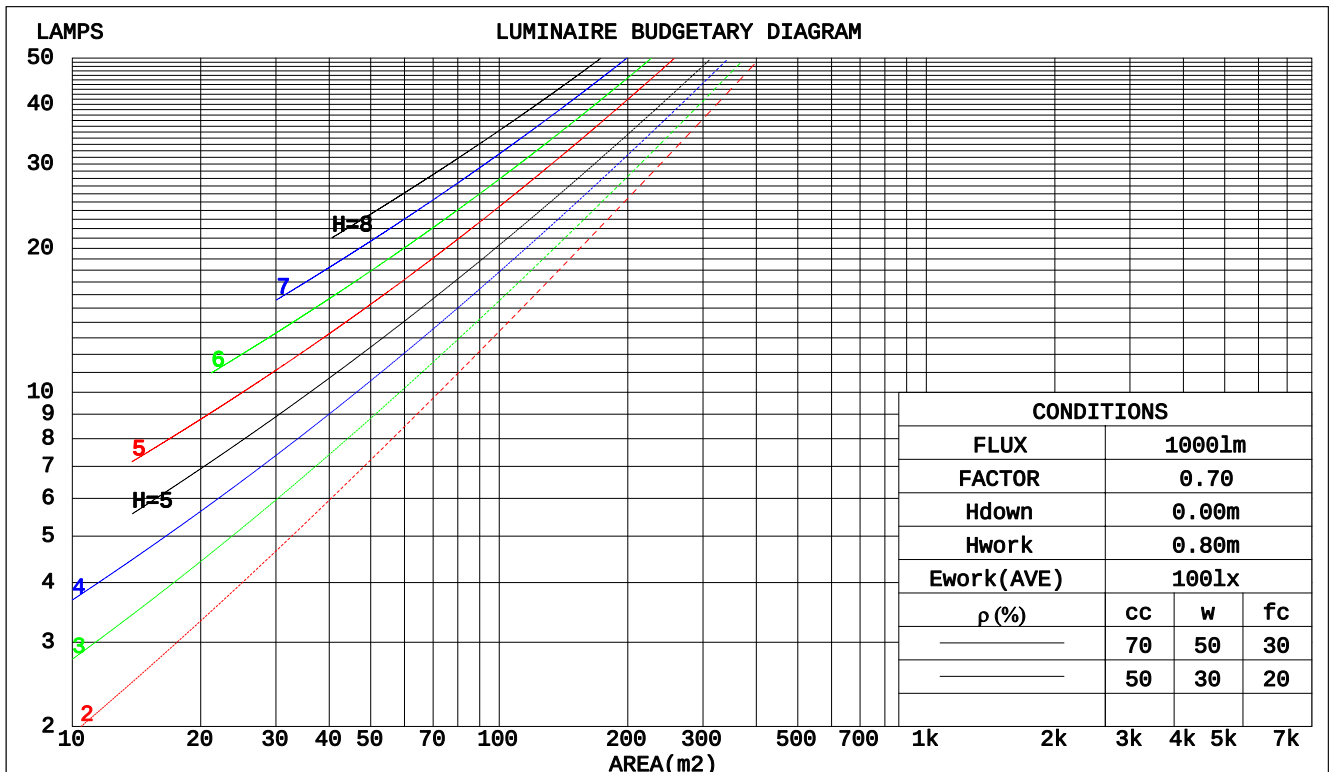
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-03-18

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=1.1573]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm		
NAME: GLM-MXHB240(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	.98	1.03	.99	.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	.69	.65	.72	.68	.64	.62
4.0	.73	.64	.58	.71	.63	.57	.69	.62	.57	.67	.61	.56	.64	.59	.55	.53
5.0	.65	.56	.50	.64	.56	.50	.62	.55	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.58	.50	.43	.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	.37	.35
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.38	.34	.44	.38	.33	.32
9.0	.44	.36	.31	.44	.36	.31	.43	.35	.30	.41	.35	.30	.40	.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=1.1573]
Remarks:

WEC AND CCEC

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm									
NAME: GLM-MXHB240(AH) 120°					TYPE: LED			WEIGHT:	
SPEC.:					DIM.:			SERIAL No.:1	
MFR.:					SUR.:			PROTECTION 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	.275	.156	.049	.268	.153	.049	.255	.146	.047	.243	.140	.045	.231	.134	.043	
2.0	.268	.147	.045	.262	.145	.045	.251	.140	.043	.240	.135	.042	.230	.130	.041	
3.0	.254	.135	.040	.248	.133	.040	.238	.129	.039	.229	.125	.038	.220	.122	.038	
4.0	.238	.123	.036	.233	.122	.036	.224	.119	.035	.215	.116	.035	.208	.113	.034	
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.202	.107	.032	.195	.104	.031	
6.0	.207	.104	.030	.203	.103	.030	.196	.101	.029	.190	.099	.029	.183	.097	.029	
7.0	.194	.096	.027	.190	.095	.027	.184	.093	.027	.178	.091	.027	.172	.090	.026	
8.0	.182	.089	.025	.179	.088	.025	.173	.086	.025	.168	.085	.024	.163	.083	.024	
9.0	.171	.083	.023	.168	.082	.023	.163	.081	.023	.158	.079	.023	.154	.078	.023	
10.0	.161	.077	.021	.159	.077	.021	.154	.075	.021	.150	.074	.021	.145	.073	.021	

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	.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	.134	.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	.073	.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=1.1573]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm											
NAME: GLM-MXHB240(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		31.9	33.4	32.2	33.6	33.8	32.0	33.4	32.2	33.6	33.8
	3H	32.8	34.1	33.1	34.3	34.6	33.0	34.3	33.2	34.5	34.8
	4H	32.9	34.2	33.2	34.4	34.7	33.1	34.4	33.4	34.6	34.9
	6H	32.8	34.0	33.2	34.3	34.6	33.0	34.2	33.3	34.5	34.8
	8H	32.8	34.0	33.1	34.2	34.5	33.0	34.1	33.3	34.4	34.7
	12H	32.7	33.9	33.1	34.1	34.5	32.9	34.0	33.3	34.3	34.6
4H	2H	32.4	33.6	32.7	33.9	34.1	32.4	33.7	32.7	33.9	34.2
	3H	33.3	34.4	33.7	34.7	35.0	33.5	34.6	33.9	34.9	35.2
	4H	33.5	34.5	33.8	34.8	35.1	33.7	34.7	34.1	35.0	35.3
	6H	33.5	34.4	33.9	34.7	35.1	33.6	34.5	34.0	34.9	35.2
	8H	33.4	34.3	33.9	34.6	35.0	33.6	34.4	34.0	34.8	35.2
	12H	33.4	34.2	33.8	34.5	34.9	33.6	34.3	34.0	34.7	35.1
8H	4H	33.5	34.3	33.9	34.7	35.1	33.7	34.5	34.1	34.9	35.3
	6H	33.6	34.2	34.0	34.6	35.1	33.7	34.4	34.1	34.8	35.2
	8H	33.5	34.1	34.0	34.5	35.0	33.6	34.2	34.1	34.7	35.1
	12H	33.5	34.0	34.0	34.5	34.9	33.6	34.1	34.1	34.6	35.0
12H	4H	33.5	34.2	33.9	34.6	35.0	33.7	34.4	34.1	34.8	35.2
	6H	33.5	34.1	34.0	34.5	35.0	33.6	34.2	34.1	34.7	35.1
	8H	33.5	34.0	34.0	34.5	34.9	33.6	34.1	34.1	34.6	35.0
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4					
1.5H	+ 0.3 / - 0.6					+ 0.3 / - 0.6					
2.0H	+ 0.5 / - 0.5					+ 0.5 / - 0.4					

CIE Pub.117 Corrected 33290 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.2)

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=1.1573]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm		
NAME: GLM-MXHB240(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	47	41	58	47	40	57	47	40	34
0.80	69	58	51	68	58	51	67	57	50	44
1.00	78	68	61	77	67	60	75	68	60	53
1.25	85	75	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	85	78
3.00	104	98	93	102	96	92	98	93	90	82
4.00	108	103	99	105	101	97	101	98	94	86
5.00	110	106	102	108	104	100	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=1.1573]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm		
NAME: GLM-MXHB240(AH) 120°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

19149 lm

%lum = 57.5%

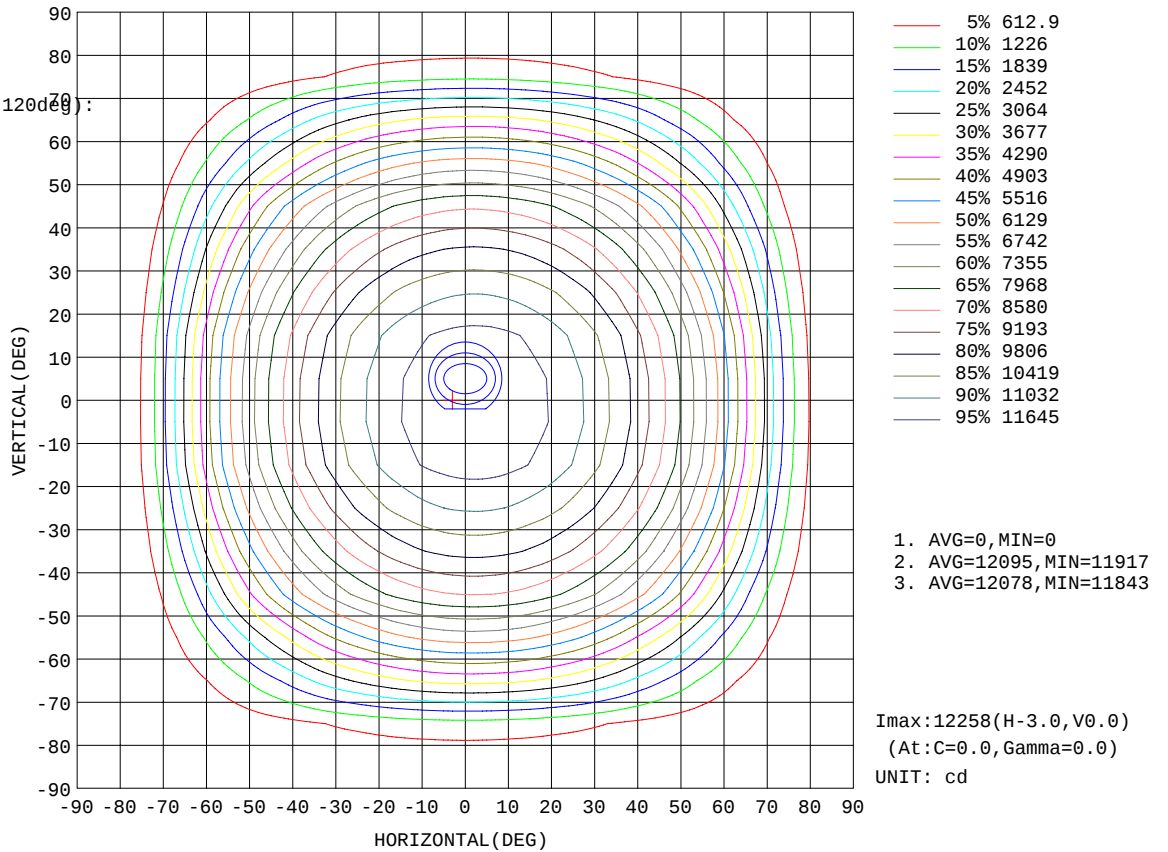
%lamp = 57.5%

Conical surface Flux(120deg):

28153 lm

%lum = 84.6%

%lamp = 84.6%

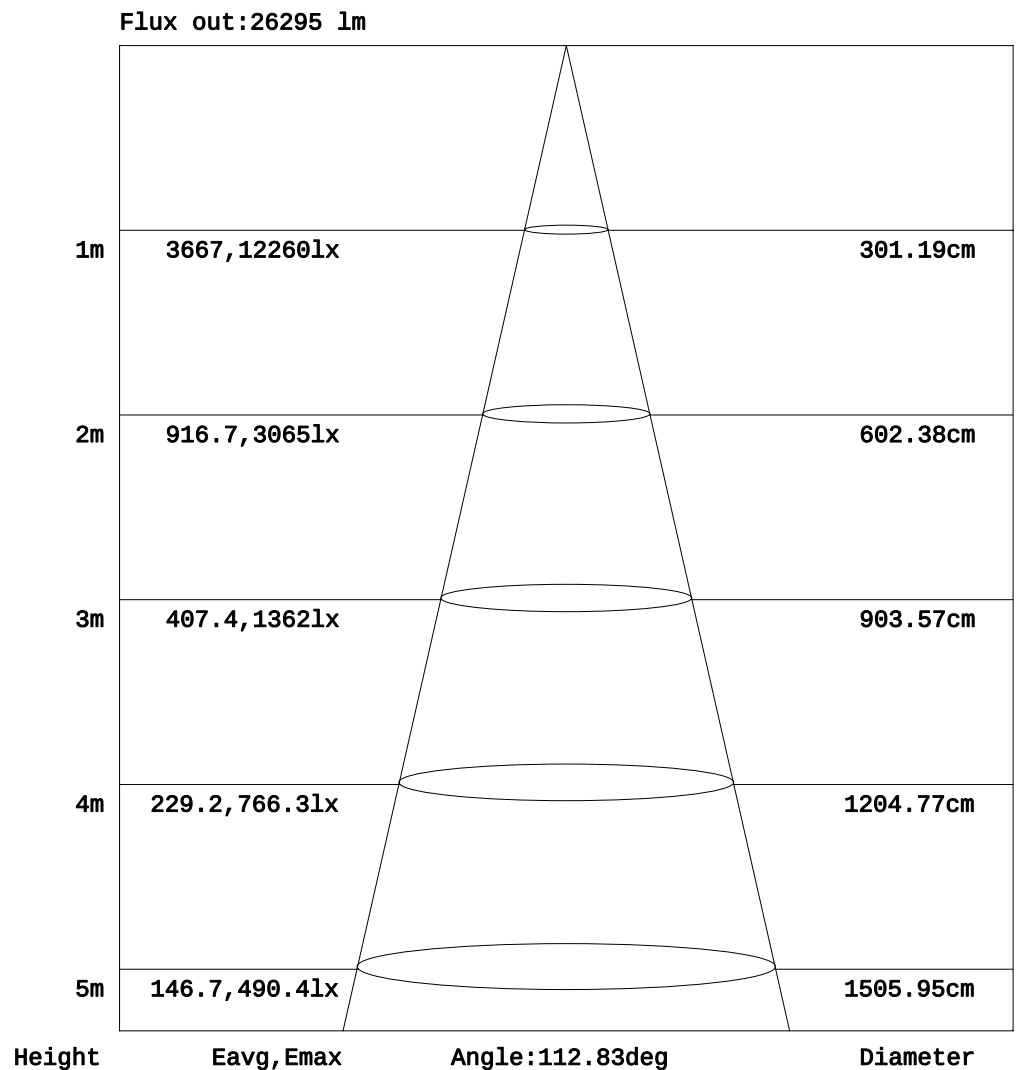


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-18

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=1.1573]
Remarks:

AAI Figure

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm		
NAME: GLM-MXHB240(AH) 120°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:



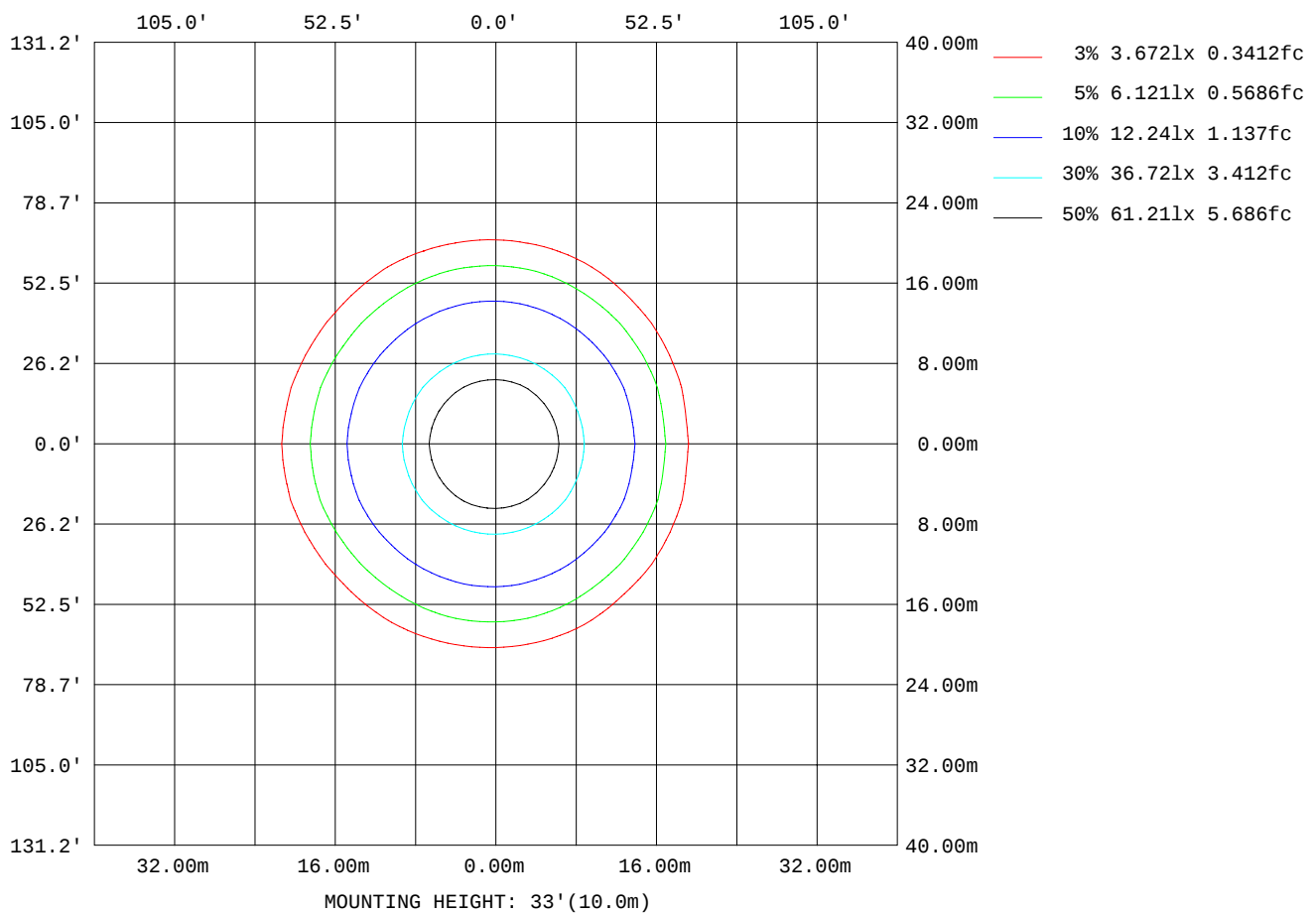
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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=1.1573]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm		
NAME: GLM-MXHB240(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=1.1573]
Remarks:

LED Avg.L Report

Test:U:220.1V I:1.055A P:233.1W PF:0.9805 Lamp Flux:33289.6x1 lm		
NAME: GLM-MXHB240(AH) 120°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

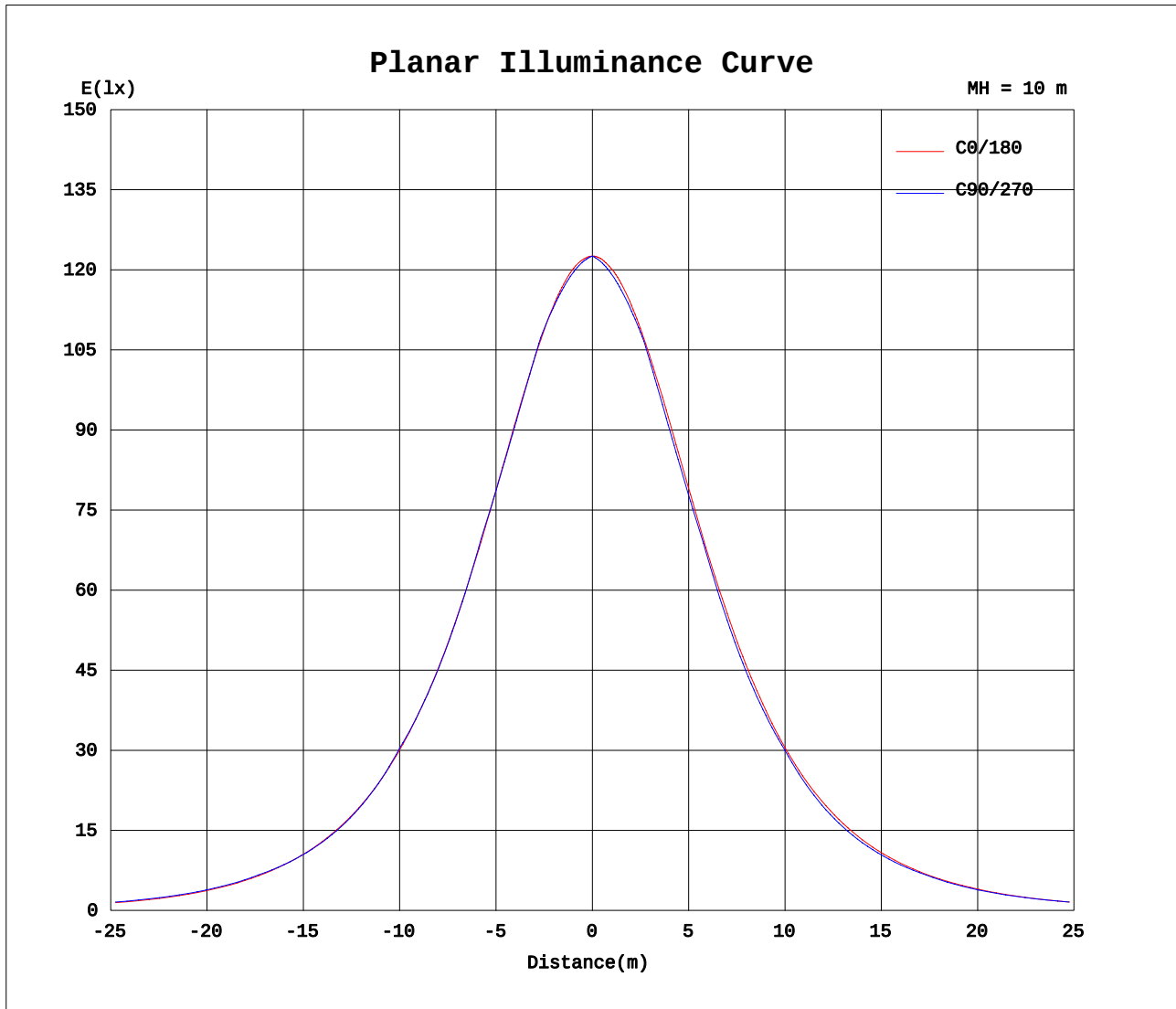
AvgL	cd/m2
L_0~180(65)av	192854
L_0~180(75)av	87691
L_0~180(85)av	5372
L_90~270(65)av	194760
L_90~270(75)av	84530
L_90~270(85)av	0
L_45(65)av	188549
L_45(75)av	105658
L_45(85)av	0

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=1.1573]
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=1.1573]
Remarks:

