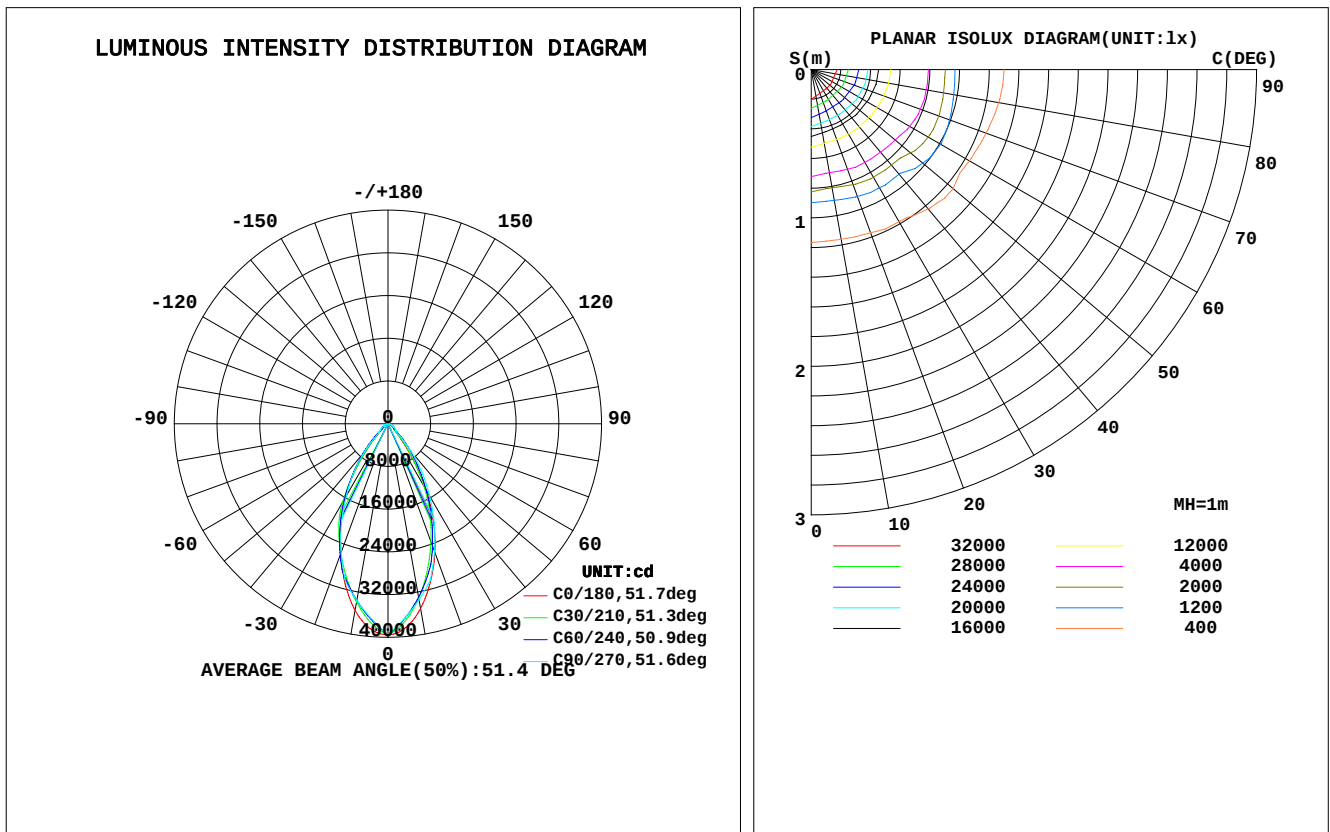


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.1V I:1.055A P:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm		
NAME: GLM-MXHB240(AH) 60°	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 136.65 lm/W			
MODEL		I _{max} (cd)	39523	S/MH(C0/180)	0.79
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	0.78
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	31794	η UP, DN(C0-180)	0.0, 49.6
NOMINAL FLUX(lm)	31793.5	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.85



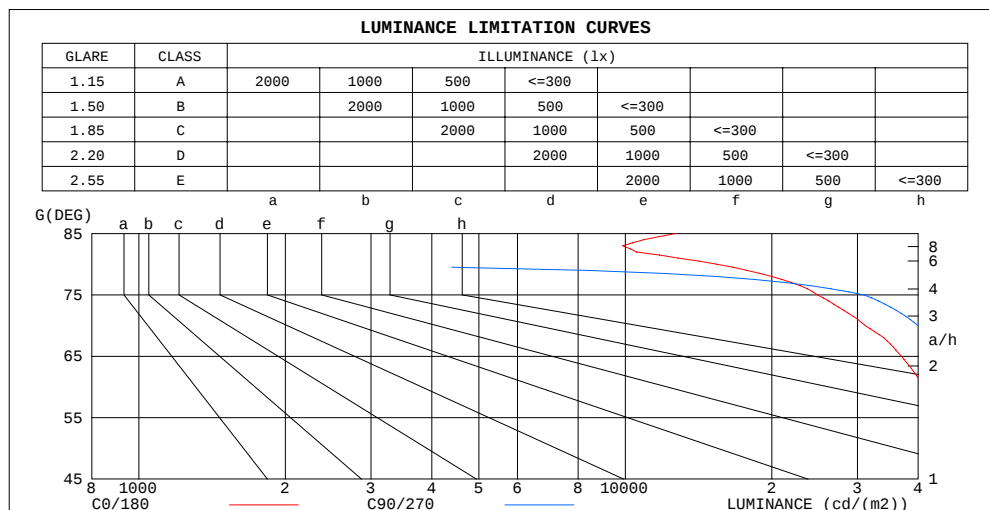
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-16

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	3834	3672	3650	3698	3852	3698	3657	3684	0- 5	908.2	908.2	2.86, 2.86
10	3515	3292	3348	3367	3550	3367	3362	3332	5- 10	2525	3433	10.8, 10.8
15	3069	2853	3046	2985	3105	3011	3066	2939	10- 15	3762	7196	22.6, 22.6
20	2567	2401	2548	2573	2598	2662	2564	2549	15- 20	4532	11728	36.9, 36.9
25	2015	1877	2049	2029	2108	2167	2062	2033	20- 25	4750	16478	51.8, 51.8
30	1418	1353	1551	1493	1617	1620	1559	1498	25- 30	4451	20929	65.8, 65.8
35	816.5	861.0	1111	996.8	1089	1058	1123	968.5	30- 35	3676	24605	77.4, 77.4
40	386.1	455.4	672.1	569.5	564.6	557.0	685.8	503.9	35- 40	2597	27201	85.6, 85.6
45	195.0	274.6	232.8	341.8	225.8	314.5	249.0	275.2	40- 45	1522	28723	90.3, 90.3
50	139.0	177.1	194.7	206.2	134.9	177.3	197.0	158.3	45- 50	820.3	29543	92.9, 92.9
55	117.5	128.4	156.7	139.0	114.3	111.2	145.0	108.2	50- 55	615.7	30159	94.9, 94.9
60	97.23	103.3	118.7	113.4	97.20	92.02	93.08	85.43	55- 60	522.8	30682	96.5, 96.5
65	74.10	79.16	91.80	89.00	77.61	72.65	70.46	62.43	60- 65	430.1	31112	97.9, 97.9
70	50.58	55.63	64.92	65.50	55.54	52.38	47.84	40.85	65- 70	330.4	31442	98.9, 98.9
75	30.53	33.06	38.05	43.18	34.13	31.94	25.22	22.00	70- 75	222.6	31665	99.6, 99.6
80	12.71	11.65	0	19.93	16.01	11.97	0	5.310	75- 80	109.1	31774	99.9, 99.9
85	5.265	0	0	0	0.0302	0	0	0	80- 85	18.41	31792	100, 100
90	4.573	0	0	0	0.1813	0	0	0	85- 90	1.168	31794	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: ×10cd									UNIT: lm		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	12719	0
80	15408	0
75	24834	30947
70	31137	39962
65	36914	45729
60	40941	49968
55	43114	57517
50	45524	63780
45	58054	69301

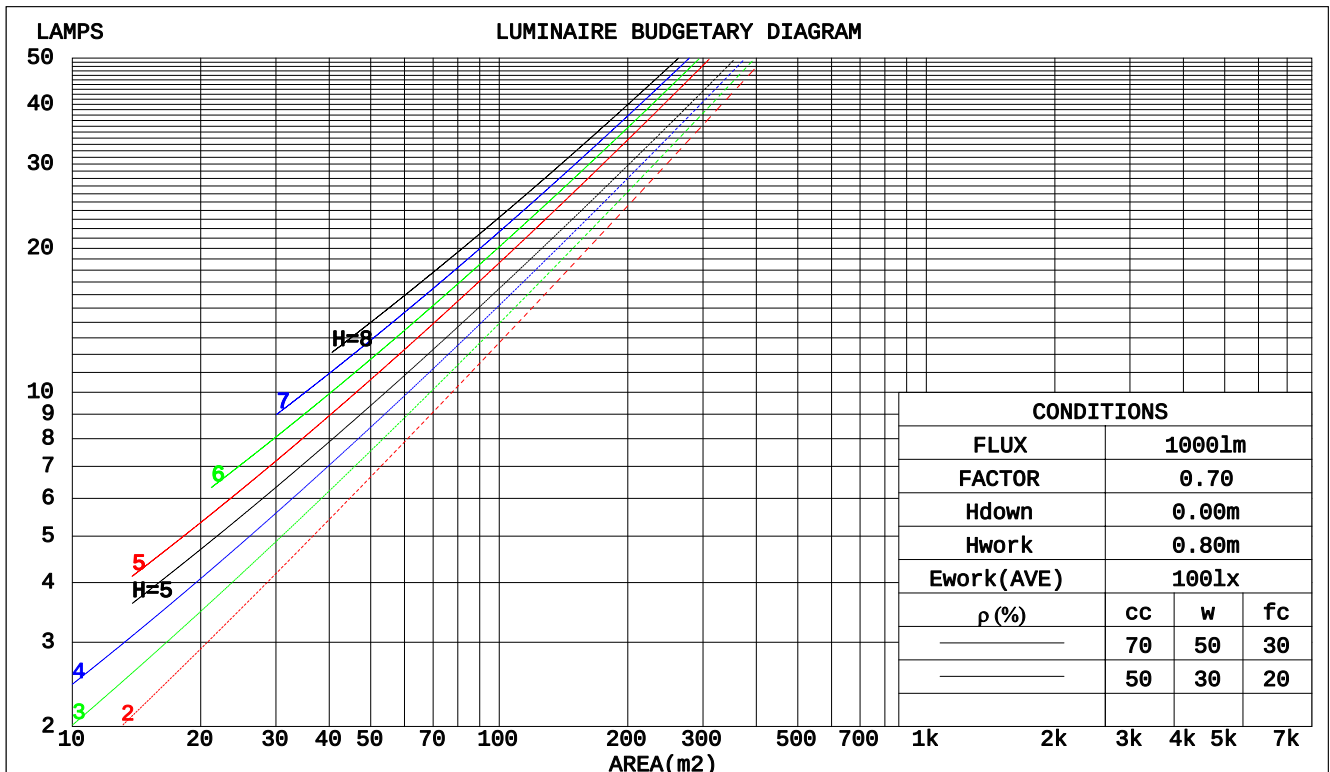
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm		
NAME: GLM-MXHB240(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	.00
1.0	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	.00	.00	.98	.97	.97	.95	.94	.92
2.0	1.02	.97	.93	.90	.96	.92	.96	.93	.90	.93	.91	.88	.91	.89	.87	.85
3.0	.94	.89	.84	.93	.88	.84	.90	.86	.82	.87	.84	.81	.85	.82	.80	.78
4.0	.87	.81	.77	.86	.81	.76	.84	.79	.76	.82	.78	.75	.80	.77	.74	.72
5.0	.81	.75	.71	.81	.75	.70	.79	.74	.70	.77	.73	.69	.75	.72	.68	.67
6.0	.76	.70	.65	.75	.69	.65	.74	.69	.65	.72	.68	.64	.71	.67	.64	.62
7.0	.71	.65	.61	.71	.65	.61	.69	.64	.60	.68	.63	.60	.67	.63	.60	.58
8.0	.67	.61	.57	.67	.61	.57	.66	.60	.56	.64	.60	.56	.63	.59	.56	.54
9.0	.63	.57	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.52	.51
10.0	.60	.54	.50	.60	.54	.50	.59	.53	.50	.58	.53	.50	.57	.53	.49	.48



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm									
NAME: GLM-MXHB240(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	.193	.110	.035	.186	.106	.034	.174	.100	.032	.162	.094	.030	.151	.088	.028	
2.0	.186	.102	.031	.180	.099	.031	.169	.094	.029	.159	.089	.028	.150	.085	.027	
3.0	.176	.094	.028	.171	.092	.028	.162	.088	.027	.153	.084	.026	.146	.081	.025	
4.0	.167	.087	.025	.163	.085	.025	.155	.082	.024	.147	.079	.024	.140	.076	.023	
5.0	.158	.081	.023	.154	.079	.023	.147	.077	.023	.141	.074	.022	.135	.072	.022	
6.0	.150	.075	.022	.147	.074	.021	.141	.072	.021	.135	.070	.021	.130	.068	.020	
7.0	.143	.071	.020	.140	.070	.020	.134	.068	.020	.129	.066	.019	.124	.065	.019	
8.0	.136	.066	.019	.133	.066	.019	.128	.064	.018	.124	.063	.018	.120	.061	.018	
9.0	.130	.063	.018	.127	.062	.017	.123	.061	.017	.119	.060	.017	.115	.058	.017	
10.0	.124	.059	.016	.122	.059	.016	.118	.058	.016	.114	.057	.016	.111	.056	.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	.144	.147	.135	.124	.101	.093	.085	.058	.054	.050	.019	.017	.016	
2.0	.158	.132	.111	.135	.114	.096	.093	.079	.067	.054	.046	.039	.017	.015	.013	
3.0	.146	.114	.088	.126	.098	.076	.086	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.137	.099	.071	.117	.086	.061	.081	.060	.043	.047	.035	.026	.015	.011	.008	
5.0	.128	.088	.058	.110	.076	.050	.076	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.121	.079	.048	.104	.068	.042	.072	.048	.030	.042	.028	.018	.013	.009	.006	
7.0	.114	.071	.041	.098	.062	.036	.068	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.108	.065	.035	.093	.056	.031	.065	.040	.022	.038	.023	.013	.012	.008	.004	
9.0	.103	.060	.030	.089	.052	.027	.062	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.098	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm											
NAME: GLM-MXHB240(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	2H	23.1	24.1	23.3	24.3	24.4	24.9	25.9	25.1	26.0	26.2
	3H	23.6	24.5	23.8	24.7	24.9	25.3	26.3	25.6	26.5	26.7
	4H	23.7	24.6	24.0	24.8	25.0	25.5	26.4	25.8	26.6	26.8
	6H	23.7	24.6	24.0	24.8	25.1	25.4	26.3	25.7	26.5	26.8
	8H	23.7	24.5	24.0	24.8	25.0	25.4	26.2	25.7	26.5	26.7
	12H	23.7	24.4	24.0	24.7	25.0	25.4	26.1	25.7	26.4	26.7
4H	2H	23.3	24.2	23.6	24.4	24.6	24.9	25.8	25.2	26.0	26.2
	3H	23.9	24.7	24.3	25.0	25.3	25.5	26.3	25.8	26.6	26.8
	4H	24.2	24.9	24.5	25.2	25.5	25.7	26.4	26.1	26.7	27.1
	6H	24.2	24.8	24.6	25.2	25.5	25.7	26.3	26.1	26.7	27.0
	8H	24.2	24.8	24.6	25.1	25.5	25.7	26.2	26.1	26.6	27.0
	12H	24.2	24.7	24.6	25.0	25.4	25.6	26.1	26.0	26.5	26.9
8H	4H	24.2	24.8	24.6	25.1	25.5	25.7	26.3	26.1	26.7	27.0
	6H	24.3	24.8	24.7	25.2	25.6	25.7	26.2	26.1	26.6	27.0
	8H	24.3	24.7	24.7	25.1	25.6	25.7	26.1	26.1	26.5	26.9
	12H	24.3	24.6	24.7	25.1	25.5	25.6	26.0	26.1	26.4	26.9
12H	4H	24.2	24.7	24.6	25.1	25.5	25.7	26.2	26.1	26.6	27.0
	6H	24.3	24.7	24.7	25.1	25.5	25.7	26.1	26.1	26.5	26.9
	8H	24.3	24.6	24.7	25.1	25.5	25.6	26.0	26.1	26.4	26.9
Variations with the observer position at spacings:											
S = 1.0H	+ 1.3 / - 1.3					+ 1.6 / - 2.0					
1.5H	+ 2.6 / - 1.1					+ 3.4 / - 1.7					
2.0H	+ 0.6 / - 0.4					+ 0.7 / - 0.8					

CIE Pub.117 Corrected 31794 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.0)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm		
NAME: GLM-MXHB240(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) $k(RI) \times RCR = 5$									
$k = 0.60$	83	75	71	82	75	71	81	75	71	67
0.80	91	84	79	90	83	79	89	83	79	75
1.00	96	89	85	95	89	85	93	89	84	80
1.25	100	94	90	99	94	90	97	92	89	84
1.50	103	98	94	102	97	93	100	96	92	87
2.00	107	102	98	105	101	97	102	99	96	90
2.50	109	104	101	107	103	100	104	101	98	92
3.00	110	107	103	109	105	102	105	102	100	94
4.00	113	110	107	111	108	106	107	105	103	96
5.00	114	112	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:2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm		
NAME: GLM-MXHB240(AH) 60°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

28723 lm

%lum = 90.3%

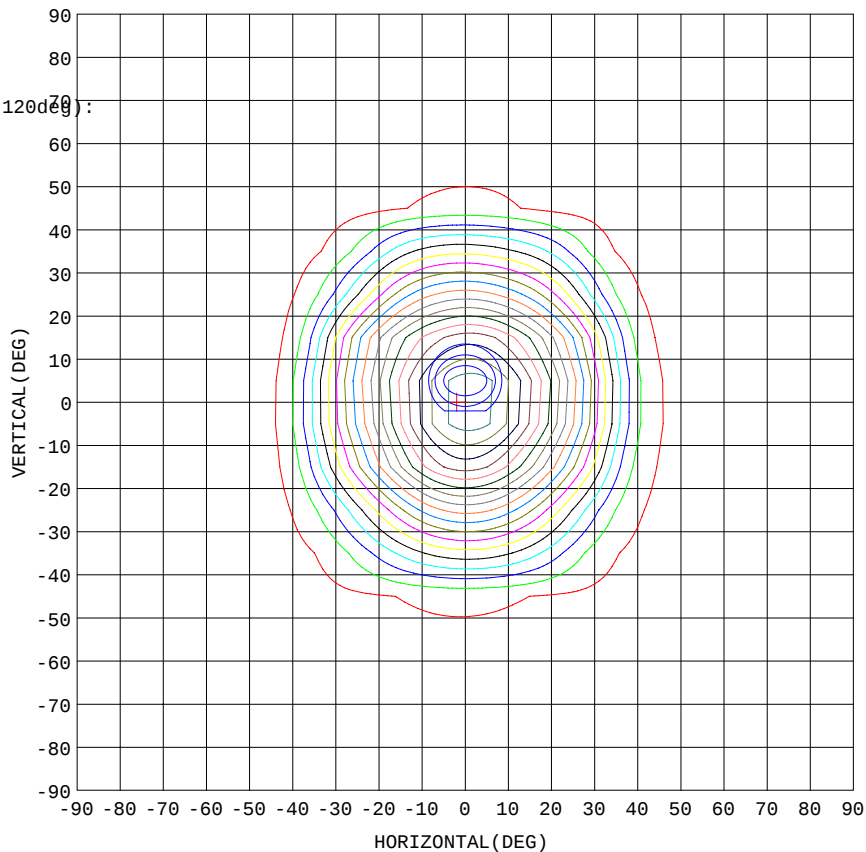
%lamp = 90.3%

Conical surface Flux(120deg):

30682 lm

%lum = 96.5%

%lamp = 96.5%



1. AVG=0, MIN=0
2. AVG=36282, MIN=32789
3. AVG=35890, MIN=31500

Imax:39507(H-2.0,V0.0)
(At:C=0.0,Gamma=0.0)

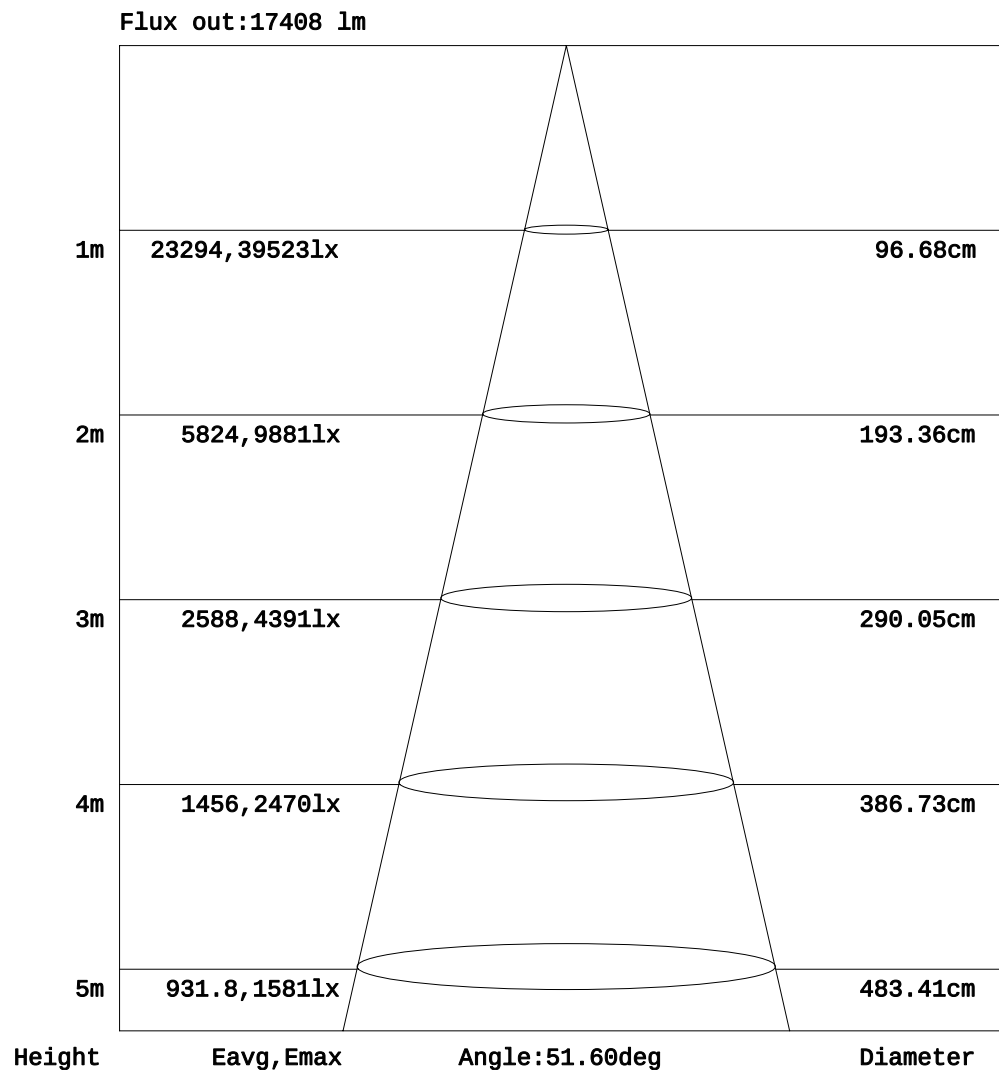
UNIT: cd

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm		
NAME: GLM-MXHB240(AH) 60°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:



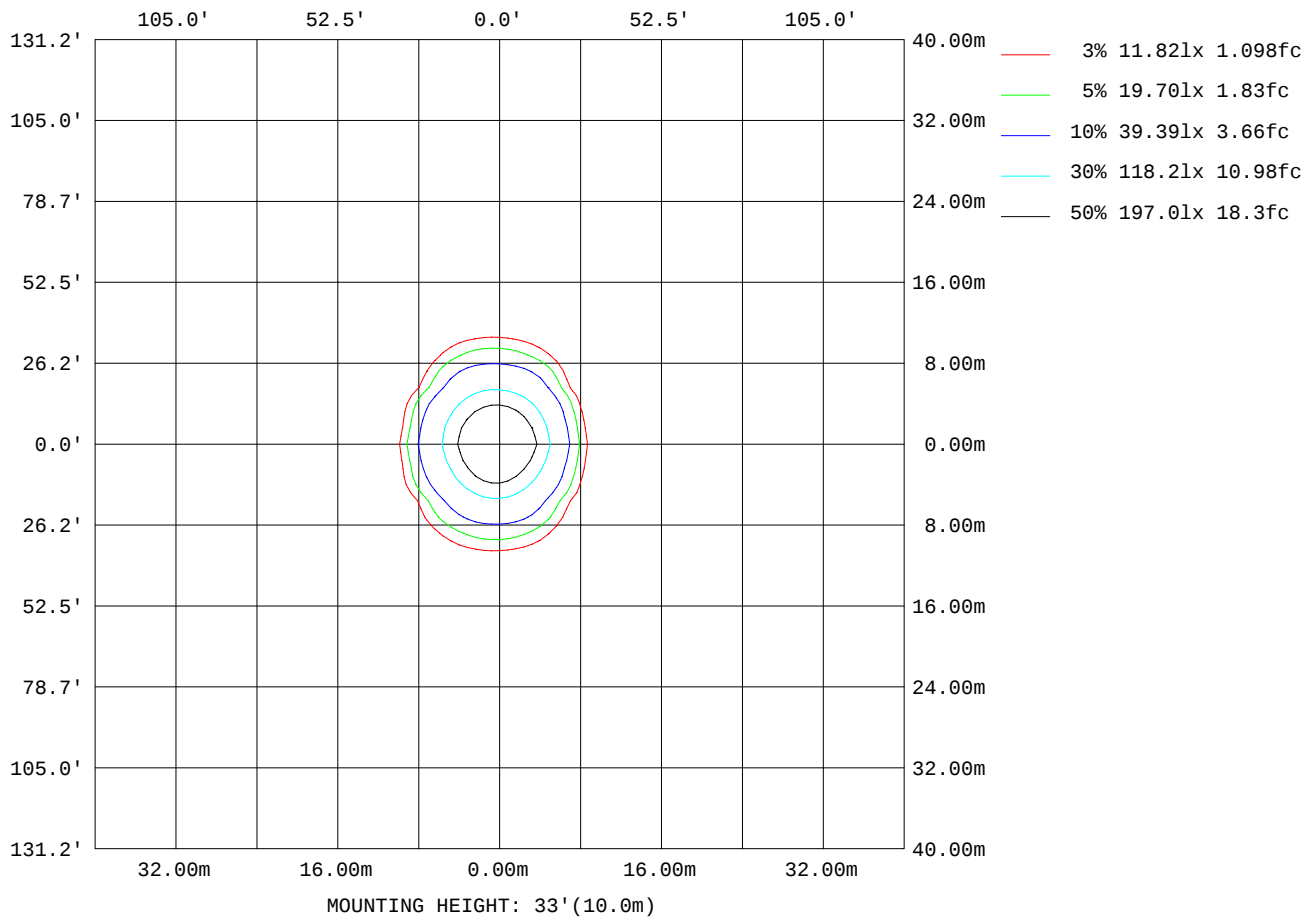
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm		
NAME: GLM-MXHB240(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:2020-03-16

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:232.7W PF:0.9803 Lamp Flux:31793.5x1 lm		
NAME: GLM-MXHB240(AH) 60°	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

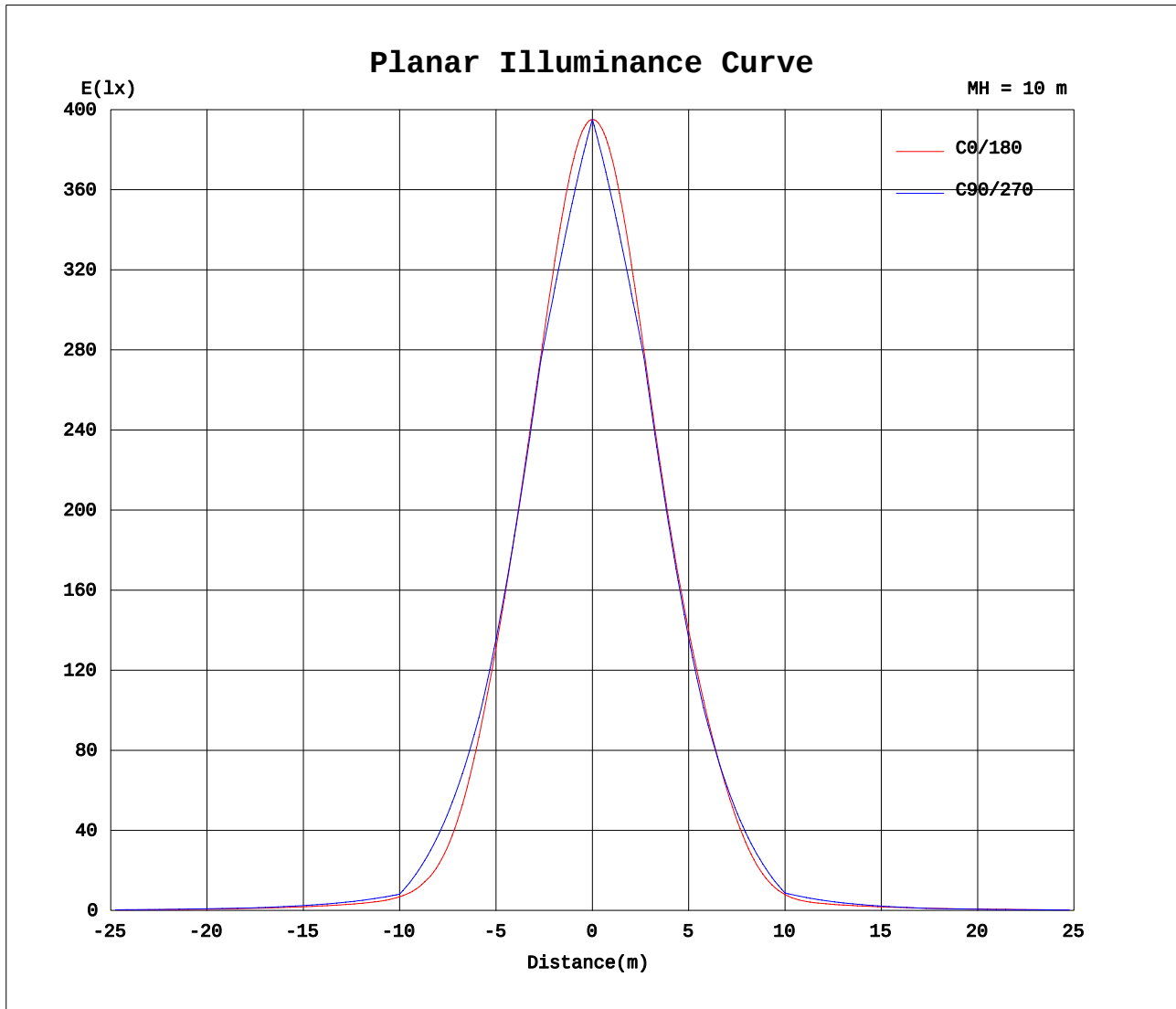
AvgL	cd/m2
L_0~180(65)av	37787
L_0~180(75)av	26297
L_0~180(85)av	6396
L_90~270(65)av	40413
L_90~270(75)av	25729
L_90~270(85)av	0
L_45(65)av	37764
L_45(75)av	26471
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-03-16

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: 2020-03-16

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:

