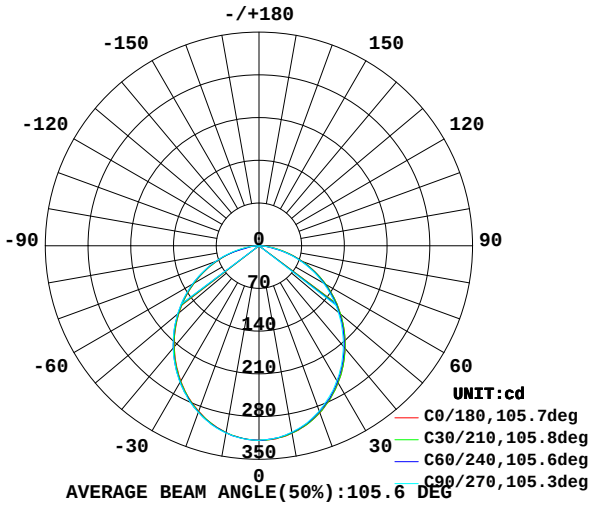
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	PROTECTION ANGLE:

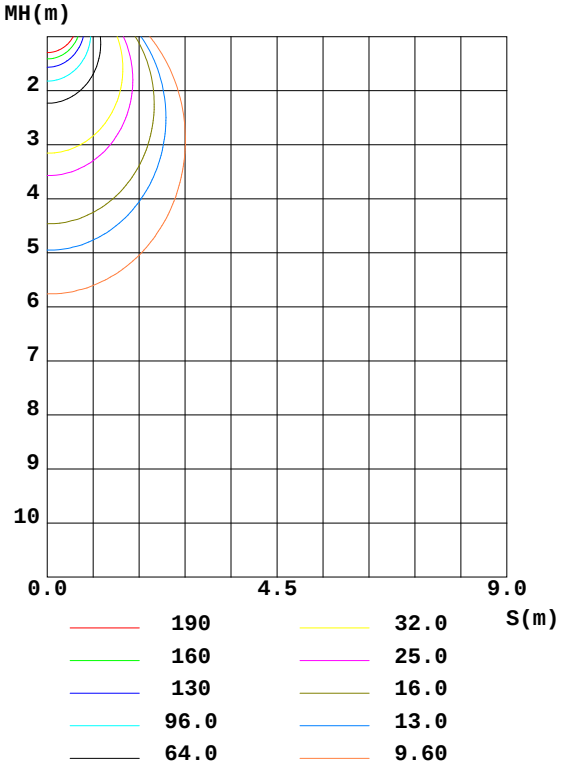
DATA OF LAMP		PHOTOMETRIC DATA Eff: 83.44 lm/W			
MODEL	M3GB	Imax(cd)	318.9	S/MH(C0/180)	1.22
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	834.41	η UP,DN(C0-180)	0.0,49.6
NOMINAL FLUX(lm)	834.409	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.2	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):105.6 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [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	311.9	311.3	310.3	309.5	310.8	311.1	311.5	312.1	0- 10	30.05	30.05	3.6,3.6
20	291.6	290.2	288.3	286.7	288.6	289.7	290.7	291.7	10- 20	85.11	115.2	13.8,13.8
30	259.5	258.1	254.9	253.4	256.3	257.5	258.7	259.8	20- 30	126.5	241.6	29,29
40	219.6	218.4	214.8	213.0	215.7	217.7	218.9	220.1	30- 40	148.9	390.5	46.8,46.8
50	174.8	173.3	169.9	167.8	170.9	172.7	174.2	175.2	40- 50	150.6	541.1	64.8,64.8
60	126.2	124.9	121.4	119.5	122.7	124.4	126.2	127.2	50- 60	132.7	673.8	80.8,80.8
70	76.25	74.71	71.70	70.10	72.75	74.47	76.43	77.63	60- 70	98.10	771.9	92.5,92.5
80	29.04	25.18	25.68	20.24	26.40	23.08	29.77	24.86	70- 80	51.90	823.8	98.7,98.7
90	0.0299	0.0120	0.0539	0.0539	0.1855	0.1765	0.1486	0.1586	80- 90	10.60	834.4	100,100
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		

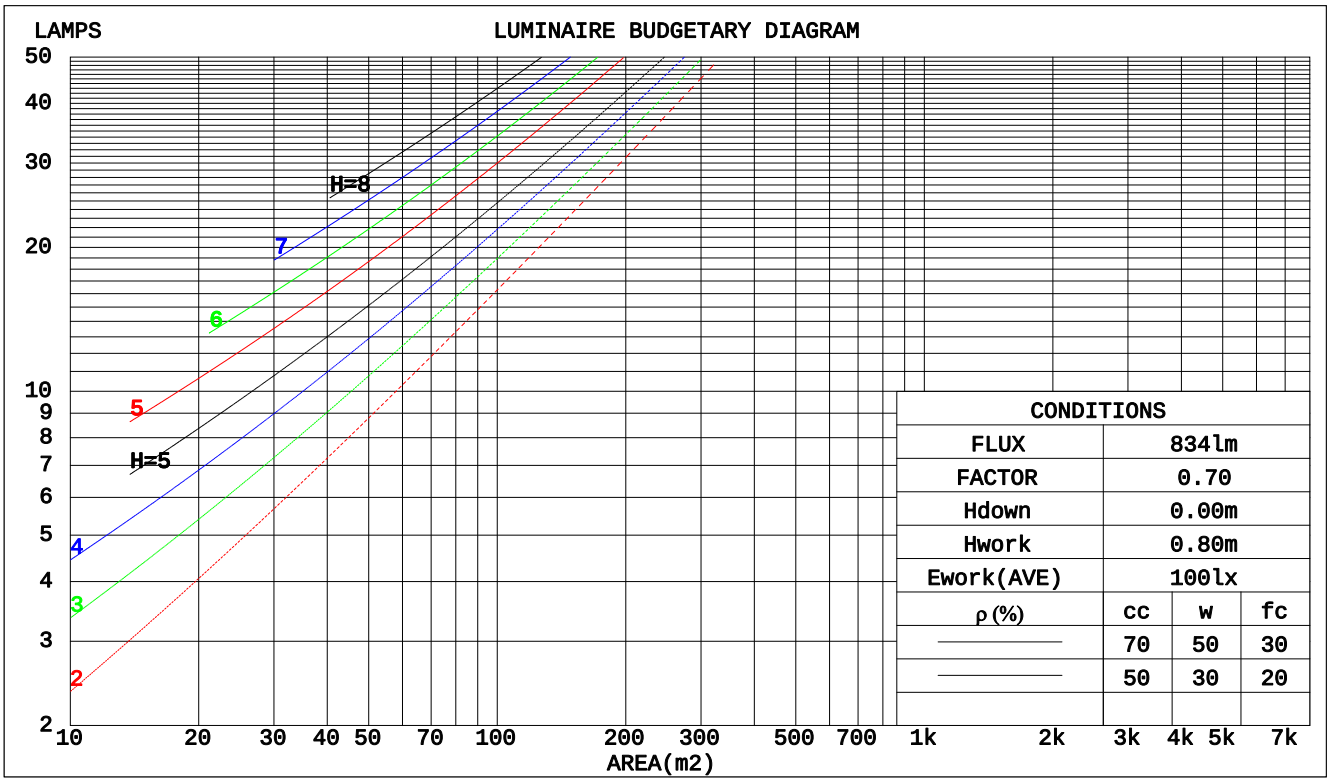
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	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			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	1.05	1.00	.97	1.02	.99	.95	.98	.95	.92	.94	.92	.89	.91	.89	.87	.85
2.0	.91	.85	.79	.90	.83	.78	.86	.81	.76	.83	.78	.75	.80	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.70	.64	.73	.68	.63	.71	.66	.62	.60
4.0	.71	.63	.56	.70	.62	.56	.68	.61	.55	.65	.59	.54	.63	.58	.54	.51
5.0	.64	.55	.49	.63	.54	.48	.61	.53	.48	.59	.52	.47	.57	.51	.47	.45
6.0	.58	.49	.42	.57	.48	.42	.55	.47	.42	.53	.47	.41	.52	.46	.41	.39
7.0	.52	.44	.38	.51	.43	.37	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.39	.34	.47	.39	.33	.46	.38	.33	.45	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	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 Coeffcients(WEC)									
0.0																
1.0	.297	.169	.053	.290	.165	.052	.276	.159	.051	.264	.152	.049	.253	.147	.047	
2.0	.282	.155	.047	.276	.152	.047	.265	.147	.046	.254	.142	.045	.244	.138	.044	
3.0	.263	.140	.042	.257	.138	.041	.247	.134	.041	.238	.130	.040	.229	.127	.039	
4.0	.244	.127	.037	.239	.125	.037	.230	.122	.036	.221	.119	.036	.213	.116	.035	
5.0	.226	.115	.033	.222	.114	.033	.213	.111	.033	.206	.109	.032	.199	.106	.032	
6.0	.210	.105	.030	.206	.104	.030	.199	.102	.030	.192	.100	.029	.186	.098	.029	
7.0	.196	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.091	.027	
8.0	.183	.089	.025	.180	.089	.025	.174	.087	.025	.169	.086	.025	.164	.084	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.162	.078	.022	.159	.077	.021	.155	.076	.021	.150	.075	.021	.146	.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	.179	.156	.135	.154	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.146	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.155	.101	.059	.133	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.084	.050	.024	.049	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	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	28.4	29.9	28.7	30.1	30.3	28.2	29.7	28.5	29.9	30.1
3H	29.8	31.2	30.1	31.4	31.7	29.6	31.0	29.9	31.2	31.5
4H	30.4	31.7	30.7	31.9	32.2	30.1	31.4	30.4	31.7	31.9
6H	30.7	31.9	31.0	32.2	32.5	30.4	31.6	30.7	31.9	32.2
8H	30.8	32.0	31.1	32.3	32.6	30.4	31.6	30.8	31.9	32.2
12H	30.8	32.0	31.2	32.3	32.6	30.4	31.6	30.8	31.9	32.2
4H 2H	29.0	30.3	29.3	30.5	30.8	28.8	30.2	29.2	30.4	30.7
3H	30.6	31.7	30.9	32.0	32.3	30.4	31.5	30.7	31.8	32.1
4H	31.2	32.3	31.6	32.6	32.9	31.0	32.0	31.4	32.3	32.7
6H	31.7	32.6	32.1	33.0	33.3	31.3	32.3	31.7	32.6	33.0
8H	31.8	32.7	32.2	33.0	33.4	31.4	32.3	31.8	32.7	33.0
12H	31.9	32.7	32.3	33.0	33.4	31.5	32.2	31.9	32.6	33.0
8H 4H	31.4	32.3	31.8	32.7	33.0	31.2	32.1	31.6	32.4	32.8
6H	32.0	32.7	32.4	33.1	33.5	31.6	32.4	32.1	32.8	33.2
8H	32.2	32.8	32.7	33.3	33.7	31.8	32.4	32.2	32.8	33.3
12H	32.3	32.9	32.8	33.3	33.8	31.8	32.4	32.3	32.8	33.3
12H 4H	31.4	32.2	31.8	32.6	33.0	31.2	32.0	31.6	32.4	32.8
6H	32.0	32.6	32.5	33.1	33.5	31.7	32.3	32.1	32.7	33.2
8H	32.2	32.8	32.7	33.2	33.7	31.8	32.4	32.3	32.8	33.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 834.4 lm Total Lamp Luminous Flux.(8log(F/F0) = -0.6)

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Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	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) x RCR = 5									
k = 0.60	59	47	40	58	47	40	57	47	40	34
0.80	69	57	50	68	57	50	66	56	50	43
1.00	77	66	59	76	66	59	74	67	58	51
1.25	84	74	67	83	73	67	80	72	66	59
1.50	89	80	73	88	79	72	85	77	71	64
2.00	96	88	81	94	86	81	91	84	79	71
2.50	100	92	86	98	91	85	94	88	84	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	105	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

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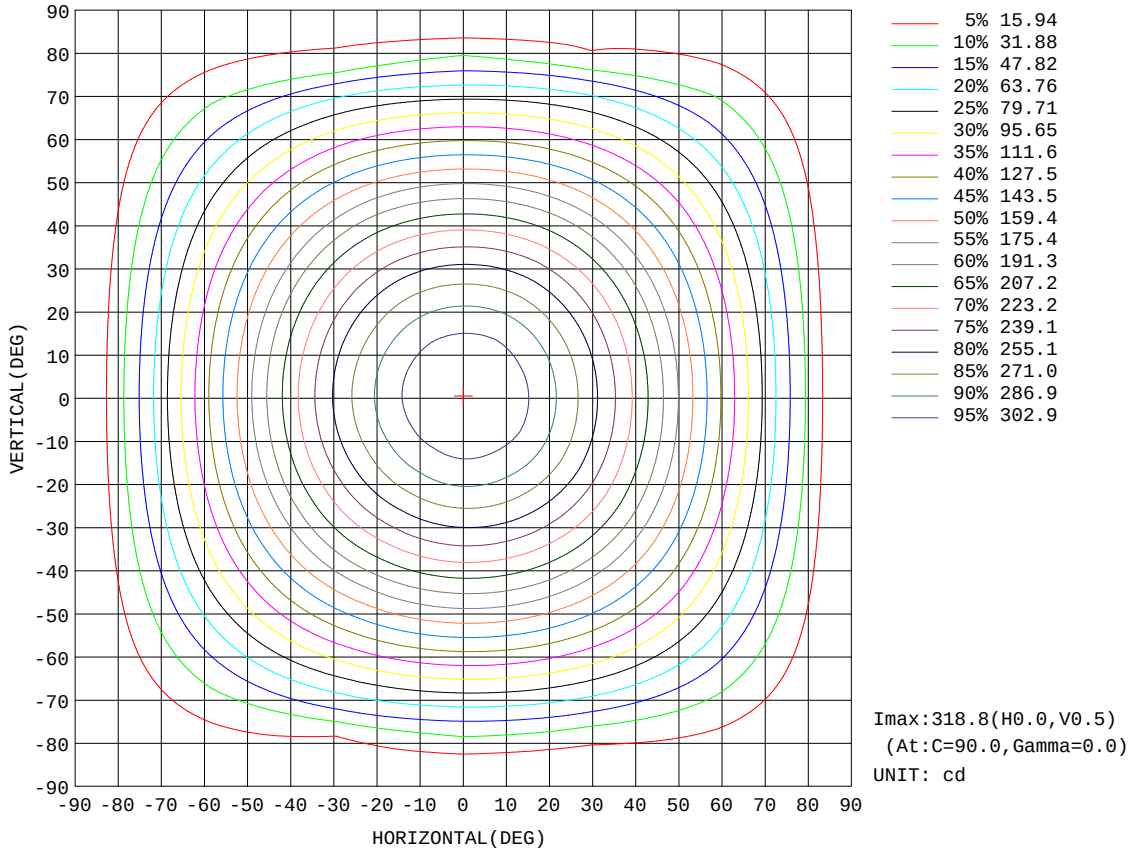
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	PROTECTION ANGLE:



C Range: 0 - 360DEG
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Test Speed: HIGH
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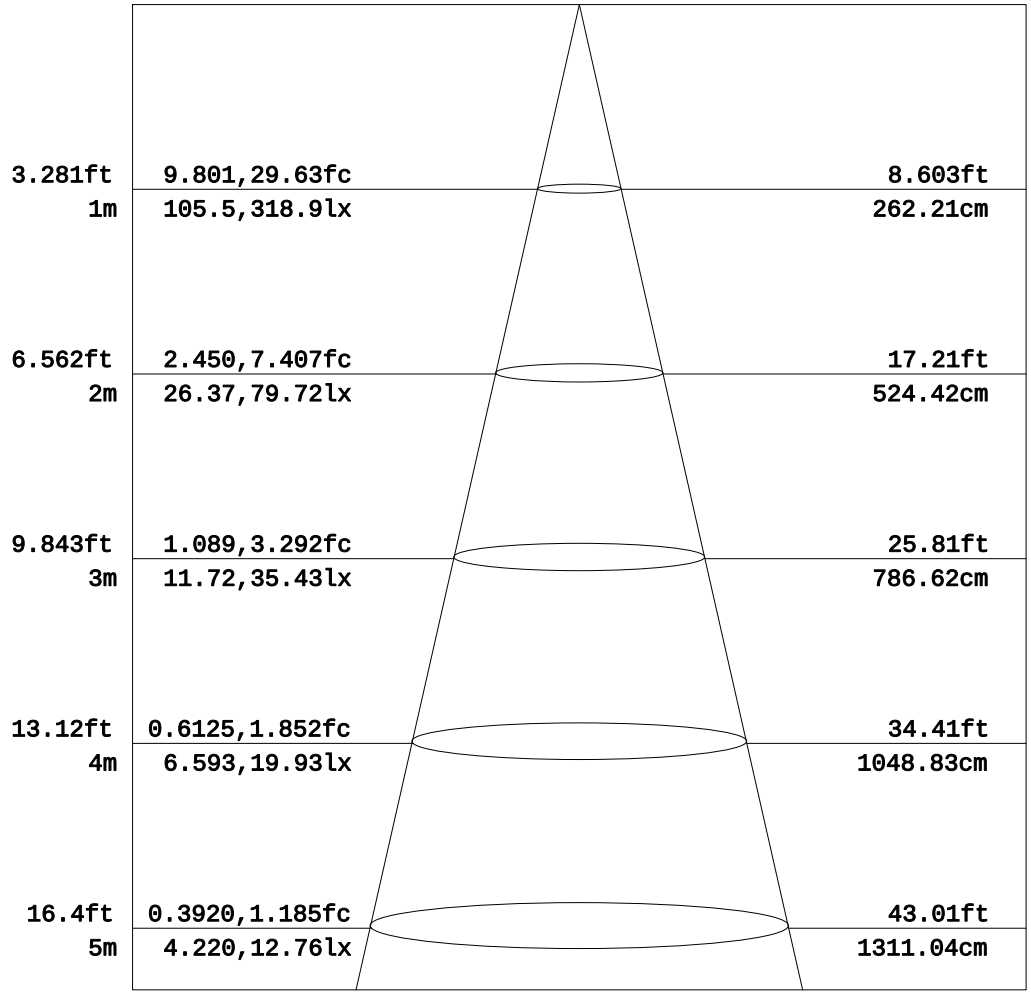
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	PROTECTION ANGLE:

Flux out:583.6 lm



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

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C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
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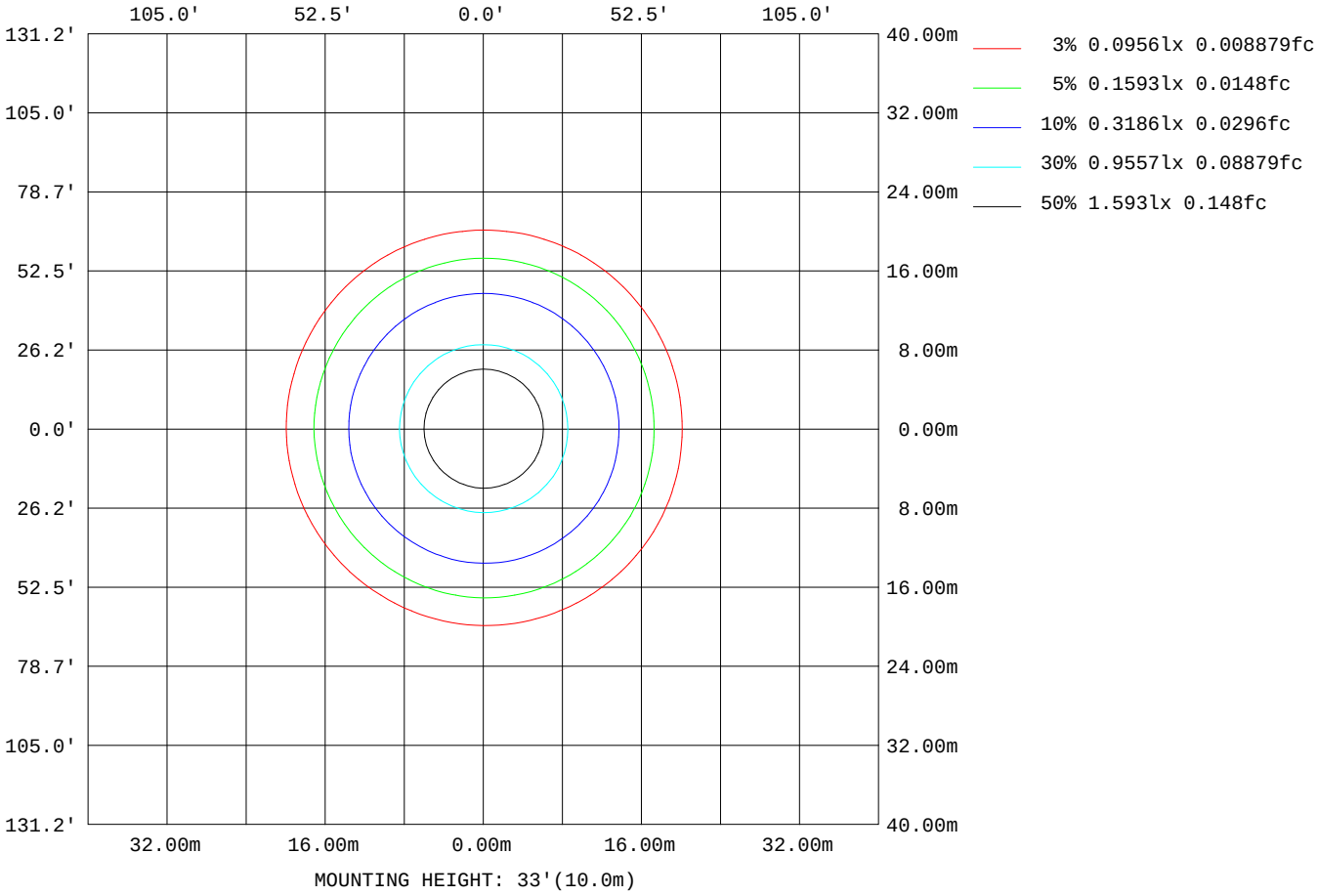
Test Distance:9.443m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	PROTECTION ANGLE:



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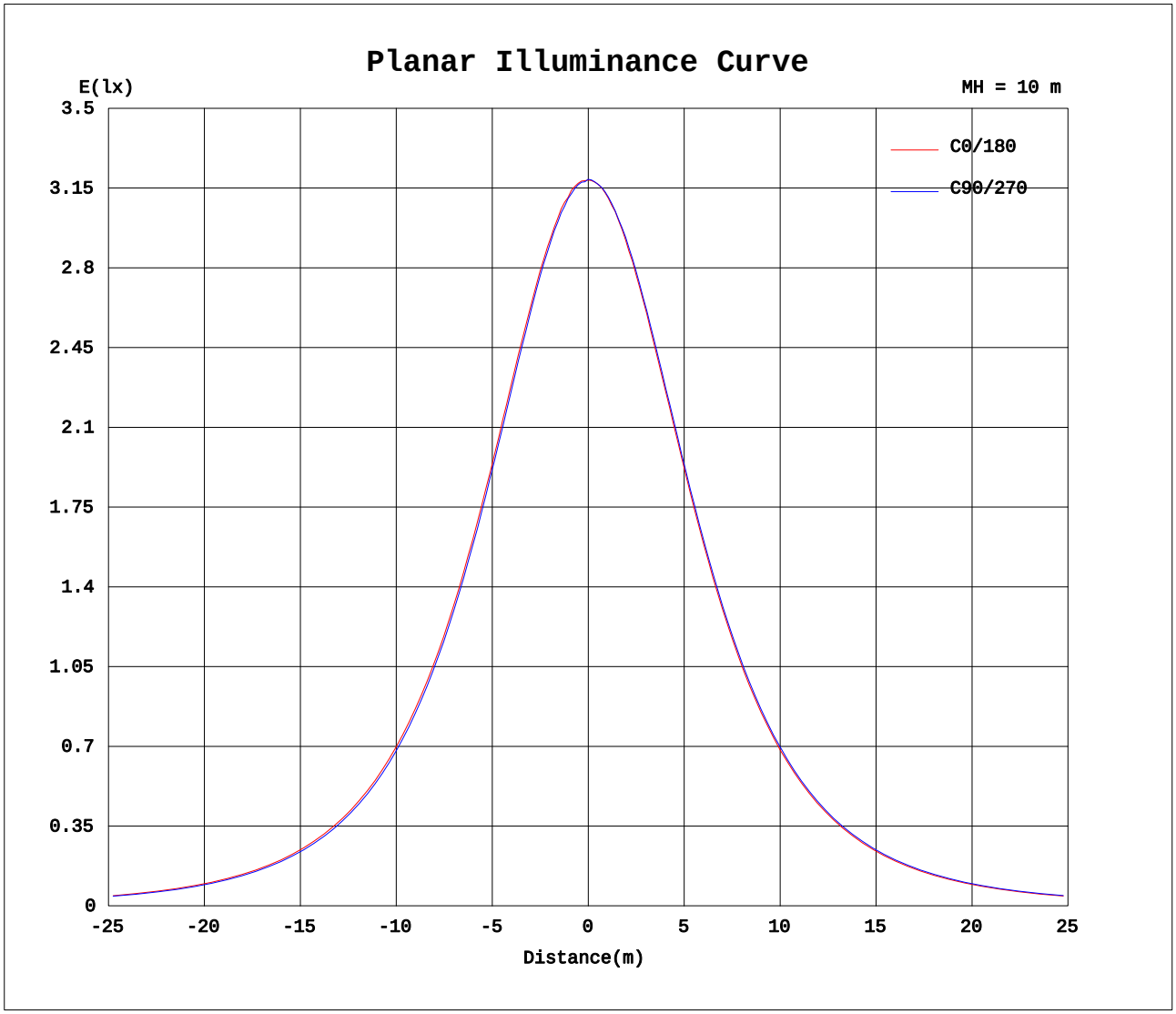
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

Planar Illuminance Curve



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Humidity:65.0%
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Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.2V I:0.0430A P:10.00W PF:0.9590 Lamp Flux:834.409x1 lm		
NAME: M3GB	TYPE:10W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:1
MFR.:	SUR.:0.0315	PROTECTION ANGLE:

Table--1 UNIT: cd

γ (DEG) \ C(DEG)	0	30	60	90	120	150	180	210	240	270	300	330
0	319	319	319	319	319	318	319	319	319	319	319	318
5	318	317	316	316	315	316	317	316	317	317	317	317
10	312	312	311	310	309	310	311	311	311	312	312	312
15	303	303	302	301	300	300	301	301	303	303	304	303
20	292	291	290	288	287	287	289	289	290	291	292	292
25	276	277	275	273	271	272	274	274	275	276	277	277
30	259	259	257	255	253	254	256	257	258	259	260	260
35	240	241	238	236	233	235	237	238	239	239	241	241
40	220	220	217	215	213	213	216	217	219	219	220	220
45	198	198	195	193	190	191	194	195	197	197	199	198
50	175	175	172	170	167	168	171	171	174	174	175	175
55	151	151	148	146	143	144	147	148	150	150	152	151
60	126	126	124	121	119	120	123	123	125	126	127	127
65	101	101	98.5	96.5	94.3	95.3	97.8	98.5	101	101	103	102
70	76.3	75.9	73.5	71.7	69.7	70.5	72.7	73.4	75.5	76.4	77.9	77.4
75	51.6	51.2	47.9	47.5	44.7	46.5	48.5	49.1	49.0	52.2	52.7	53.0
80	29.0	28.5	21.9	25.7	15.6	24.9	26.4	26.9	19.3	29.8	19.3	30.4
85	10.1	9.65	7.36	7.63	5.65	7.10	8.24	8.67	8.59	11.0	7.56	11.4
90	0.03	0.01	0.01	0.05	0.05	0.06	0.19	0.18	0.17	0.15	0.13	0.19

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-03-01

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks: