

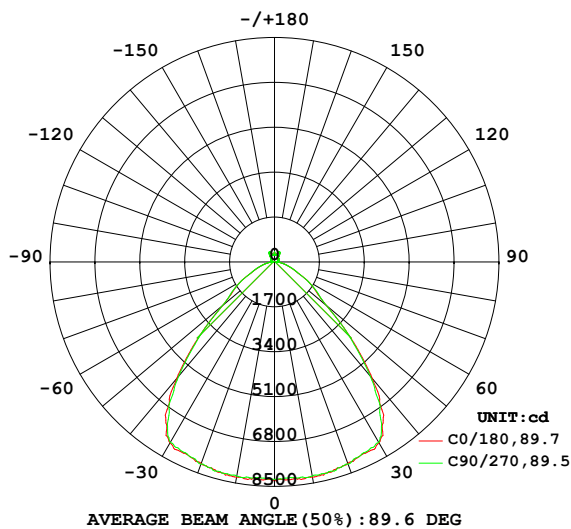
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

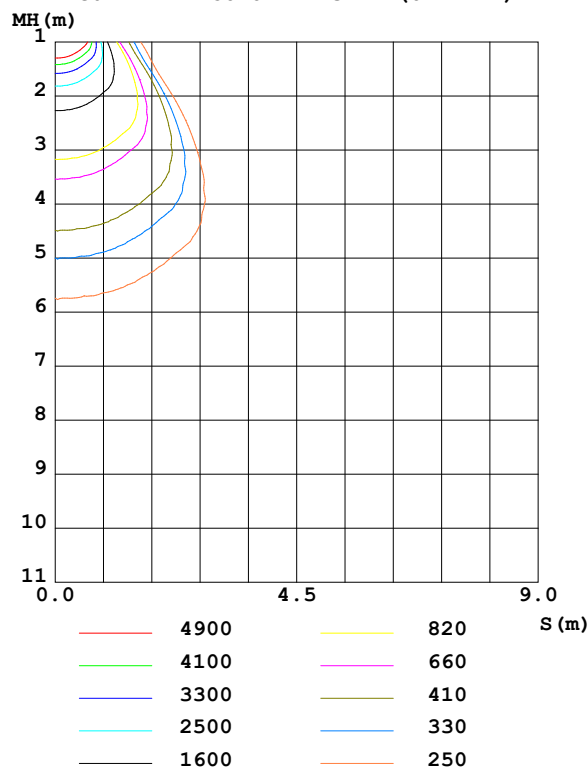
Test:U:230.0V I:0.447A P:100.1W PF:0.973 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:19019.1x1 lm		
NAME: HB68-100H-5070-H00195+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 190.05 lm/W			
MODEL	/	Imax (cd)	8314	S/MH (C0/180)	1.28
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	19019	η UP, DN (C0-180)	3.2, 46.8
NOMINAL FLUX (lm)	19019.1	CIE CLASS	DIRECT	η UP, DN (C180-360)	3.2, 46.8
LAMPS INSIDE	1	η up (%)	6.4	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	/	η down (%)	93.6	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZK
Test Date: 2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	8274	8279	8239	8279	8274	8279	8239	8279	0- 10	788.2	788.2	4.14,4.14
20	8117	8130	8147	8130	8117	8130	8147	8130	10- 20	2329	3117	16.4,16.4
30	7912	7926	7891	7926	7912	7926	7891	7926	20- 30	3717	6834	35.9,35.9
40	5756	5716	5646	5716	5756	5716	5646	5716	30- 40	4371	11205	58.9,58.9
50	2571	2518	2568	2518	2571	2518	2568	2518	40- 50	3140	14345	75.4,75.4
60	1475	1453	1467	1453	1475	1453	1467	1453	50- 60	1728	16073	84.5,84.5
70	690.3	693.6	706.9	693.6	690.3	693.6	706.9	693.6	60- 70	1009	17082	89.8,89.8
80	307.0	304.1	307.7	304.1	307.0	304.1	307.7	304.1	70- 80	512.8	17595	92.5,92.5
90	96.43	96.40	95.18	96.40	96.43	96.40	95.18	96.40	80- 90	199.8	17795	93.6,93.6
100	104.1	105.7	105.0	105.7	104.1	105.7	105.0	105.7	90-100	96.68	17892	94.1,94.1
110	148.3	148.8	147.4	148.8	148.3	148.8	147.4	148.8	100-110	135.1	18027	94.8,94.8
120	171.0	172.7	172.1	172.7	171.0	172.7	172.1	172.7	110-120	160.8	18188	95.6,95.6
130	186.2	188.2	190.6	188.2	186.2	188.2	190.6	188.2	120-130	160.6	18348	96.5,96.5
140	244.6	245.0	250.6	245.0	244.6	245.0	250.6	245.0	130-140	161.8	18510	97.3,97.3
150	400.1	411.2	417.1	411.2	400.1	411.2	417.1	411.2	140-150	207.0	18717	98.4,98.4
160	357.4	371.6	368.3	371.6	357.4	371.6	368.3	371.6	150-160	191.0	18908	99.4,99.4
170	257.9	263.2	256.4	263.2	257.9	263.2	256.4	263.2	160-170	85.32	18993	99.9,99.9
180	363.0	401.3	353.2	401.3	363.0	401.3	353.2	401.3	170-180	25.86	19019	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 13014 lm

%lum = 68.4%

%lamp = 68.4%

Conical surface Flux(120deg): 16073 lm

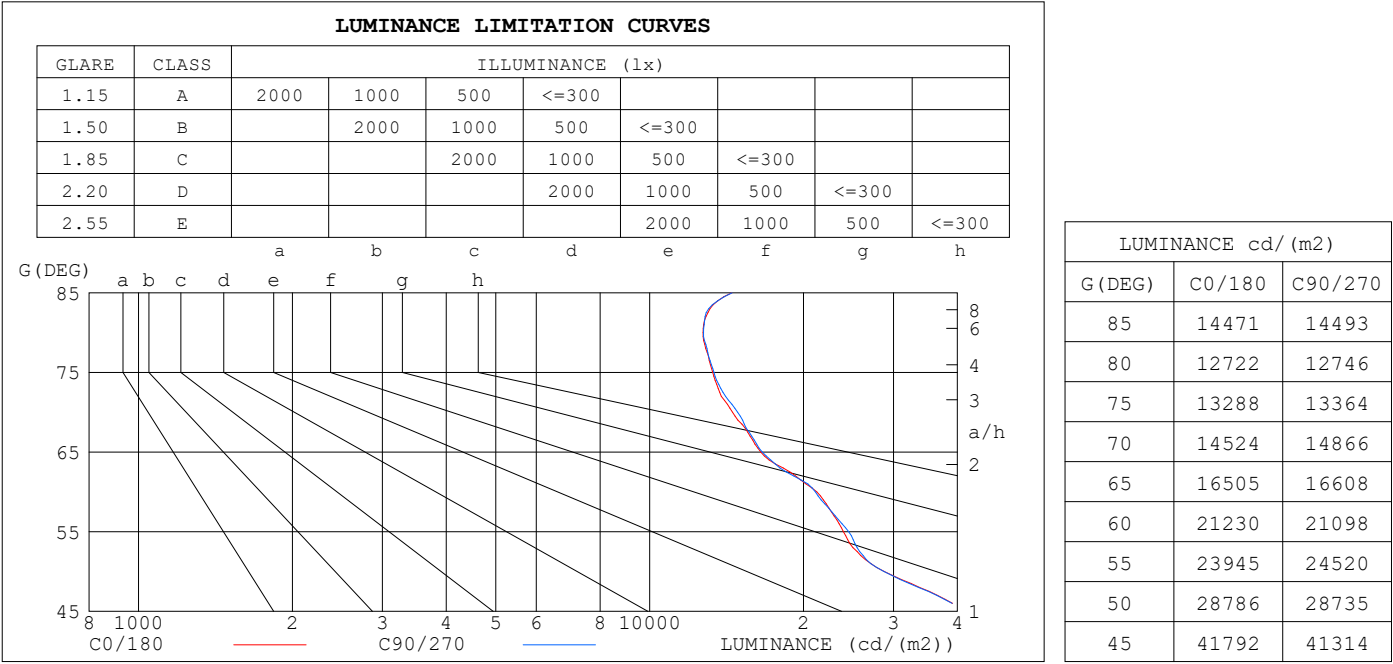
%lum = 84.5%

%lamp = 84.5%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

LUMINANCE LIMITATION CURVES



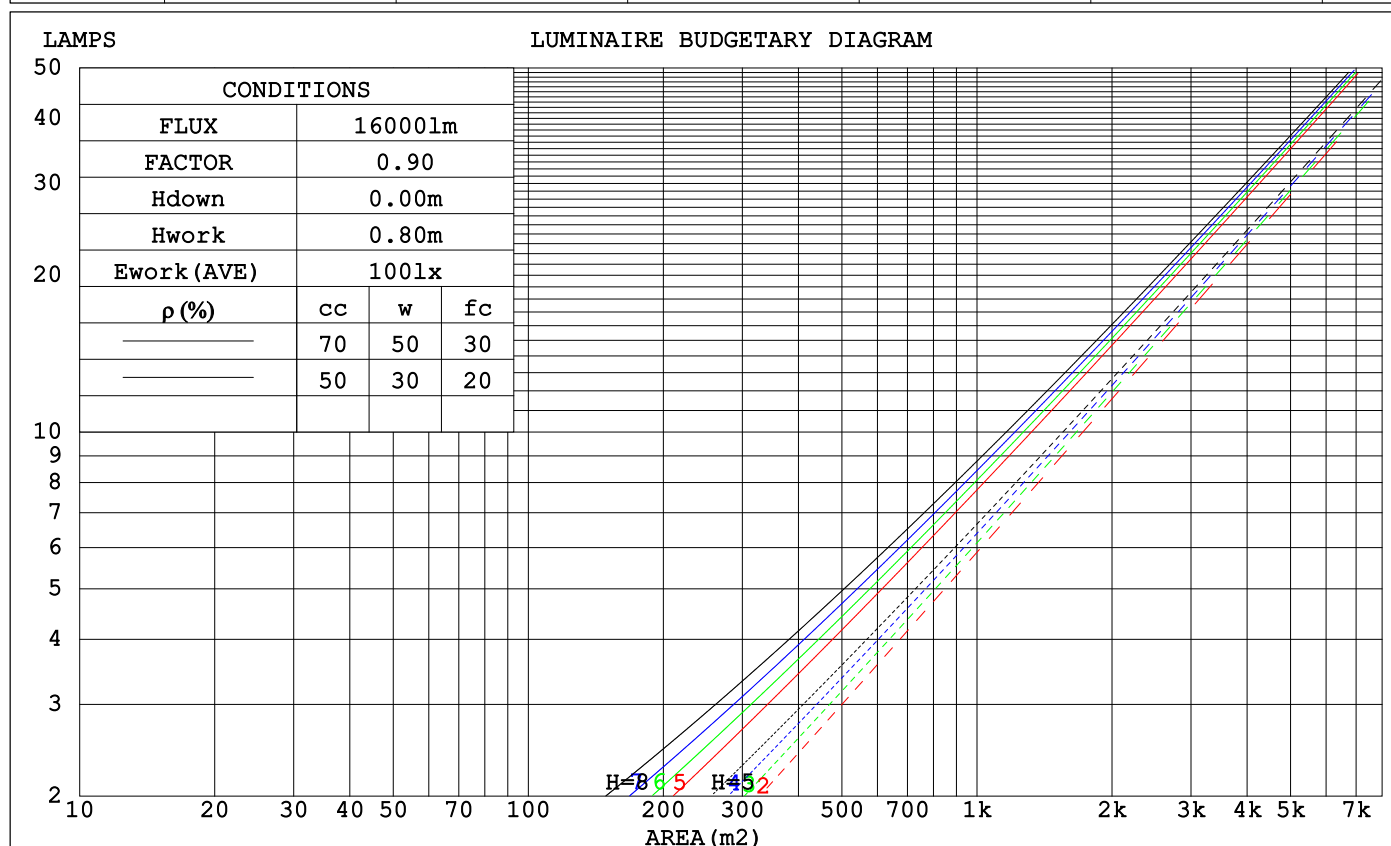
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Operators:ZZX
Test Date:2023-07-17

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γ Interval: 0.5DEG
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Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.96	.96	.96	.94
1.0	1.05	1.02	.99	1.02	.99	.96	.97	.95	.92	.92	.90	.88	.88	.86	.85	.82
2.0	.94	.89	.84	.92	.87	.82	.87	.83	.79	.83	.80	.77	.80	.77	.74	.72
3.0	.85	.78	.72	.83	.76	.71	.79	.74	.69	.75	.71	.67	.72	.69	.65	.63
4.0	.76	.69	.63	.75	.68	.62	.71	.66	.61	.69	.63	.59	.66	.62	.58	.56
5.0	.69	.61	.56	.68	.61	.55	.65	.59	.54	.63	.57	.53	.60	.55	.52	.50
6.0	.63	.55	.50	.62	.54	.49	.59	.53	.48	.57	.52	.47	.55	.50	.46	.44
7.0	.58	.50	.44	.57	.49	.44	.55	.48	.43	.53	.47	.43	.51	.46	.42	.40
8.0	.53	.45	.40	.52	.45	.40	.50	.44	.39	.49	.43	.39	.47	.42	.38	.36
9.0	.49	.41	.36	.48	.41	.36	.47	.40	.36	.45	.39	.35	.44	.38	.35	.33
10.0	.45	.38	.33	.45	.38	.33	.43	.37	.33	.42	.36	.32	.41	.36	.32	.30



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
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Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

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	.253	.144	.046	.244	.139	.044	.227	.130	.042	.212	.122	.039	.198	.115	.037		
2.0	.240	.132	.040	.233	.128	.039	.218	.121	.038	.205	.115	.036	.192	.109	.034		
3.0	.226	.120	.036	.219	.117	.035	.206	.112	.034	.194	.106	.033	.183	.101	.031		
4.0	.212	.110	.032	.206	.108	.032	.195	.103	.031	.184	.099	.030	.174	.094	.029		
5.0	.199	.102	.029	.194	.099	.029	.183	.095	.028	.174	.092	.027	.165	.088	.026		
6.0	.187	.094	.027	.182	.092	.027	.173	.089	.026	.164	.085	.025	.156	.082	.024		
7.0	.176	.087	.025	.172	.086	.024	.163	.083	.024	.156	.080	.023	.148	.077	.023		
8.0	.167	.081	.023	.162	.080	.023	.155	.077	.022	.147	.075	.022	.141	.072	.021		
9.0	.158	.076	.021	.154	.075	.021	.147	.073	.021	.140	.070	.020	.134	.068	.020		
10.0	.149	.072	.020	.146	.070	.020	.139	.068	.019	.133	.066	.019	.128	.064	.018		

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	.240	.240	.240	.205	.205	.205	.140	.140	.140	.080	.080	.080	.026	.026	.026	
1.0	.226	.206	.188	.193	.177	.162	.132	.122	.112	.076	.070	.065	.024	.023	.021	
2.0	.215	.182	.154	.184	.157	.133	.126	.108	.093	.073	.063	.054	.023	.020	.018	
3.0	.206	.164	.131	.177	.142	.113	.121	.098	.079	.070	.057	.047	.023	.019	.015	
4.0	.198	.150	.114	.170	.130	.099	.117	.091	.070	.068	.053	.041	.022	.017	.014	
5.0	.191	.140	.102	.164	.121	.089	.113	.084	.063	.065	.050	.037	.021	.016	.012	
6.0	.184	.131	.094	.158	.114	.081	.109	.080	.058	.063	.047	.034	.020	.015	.011	
7.0	.178	.124	.087	.153	.108	.076	.106	.076	.054	.061	.045	.032	.020	.015	.011	
8.0	.172	.119	.082	.148	.103	.071	.102	.072	.051	.060	.043	.030	.019	.014	.010	
9.0	.166	.114	.078	.143	.099	.068	.099	.069	.048	.058	.041	.029	.019	.013	.010	
10.0	.161	.109	.075	.139	.095	.065	.097	.067	.046	.056	.040	.028	.018	.013	.009	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZZX
 Test Date:2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4556]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UGR(Unified Glare Rating) Table

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	20.9	22.1	21.3	22.6	23.1	20.9	22.1	21.3	22.6	23.0
3H	21.9	23.1	22.4	23.5	24.1	21.9	23.0	22.4	23.5	24.0
4H	22.3	23.4	22.9	23.9	24.4	22.3	23.4	22.8	23.8	24.4
6H	22.7	23.7	23.2	24.1	24.7	22.6	23.6	23.2	24.1	24.7
8H	22.8	23.7	23.3	24.2	24.8	22.8	23.7	23.3	24.2	24.8
12H	22.9	23.8	23.5	24.3	24.9	22.9	23.8	23.4	24.3	24.9
4H 2H	21.2	22.2	21.7	22.7	23.2	21.2	22.2	21.7	22.7	23.2
3H	22.5	23.3	23.0	23.9	24.4	22.4	23.3	22.9	23.8	24.4
4H	23.0	23.8	23.5	24.3	24.9	23.0	23.7	23.5	24.3	24.9
6H	23.5	24.1	24.0	24.7	25.3	23.4	24.1	24.0	24.7	25.3
8H	23.6	24.3	24.2	24.8	25.5	23.6	24.2	24.2	24.8	25.4
12H	23.8	24.4	24.4	25.0	25.6	23.8	24.3	24.4	24.9	25.6
8H 4H	23.2	23.8	23.7	24.4	25.0	23.1	23.8	23.7	24.3	24.9
6H	23.7	24.3	24.4	24.9	25.5	23.7	24.2	24.3	24.8	25.5
8H	24.0	24.5	24.6	25.1	25.7	24.0	24.4	24.6	25.1	25.7
12H	24.3	24.7	24.9	25.3	26.0	24.3	24.7	24.9	25.3	26.0
12H 4H	23.2	23.7	23.8	24.3	24.9	23.1	23.7	23.7	24.3	24.9
6H	23.8	24.3	24.4	24.8	25.5	23.8	24.2	24.4	24.8	25.5
8H	24.1	24.5	24.7	25.1	25.8	24.1	24.5	24.7	25.1	25.8
CIE190: 2010										

CIE190: 2010
Area: 0.1392 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
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γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

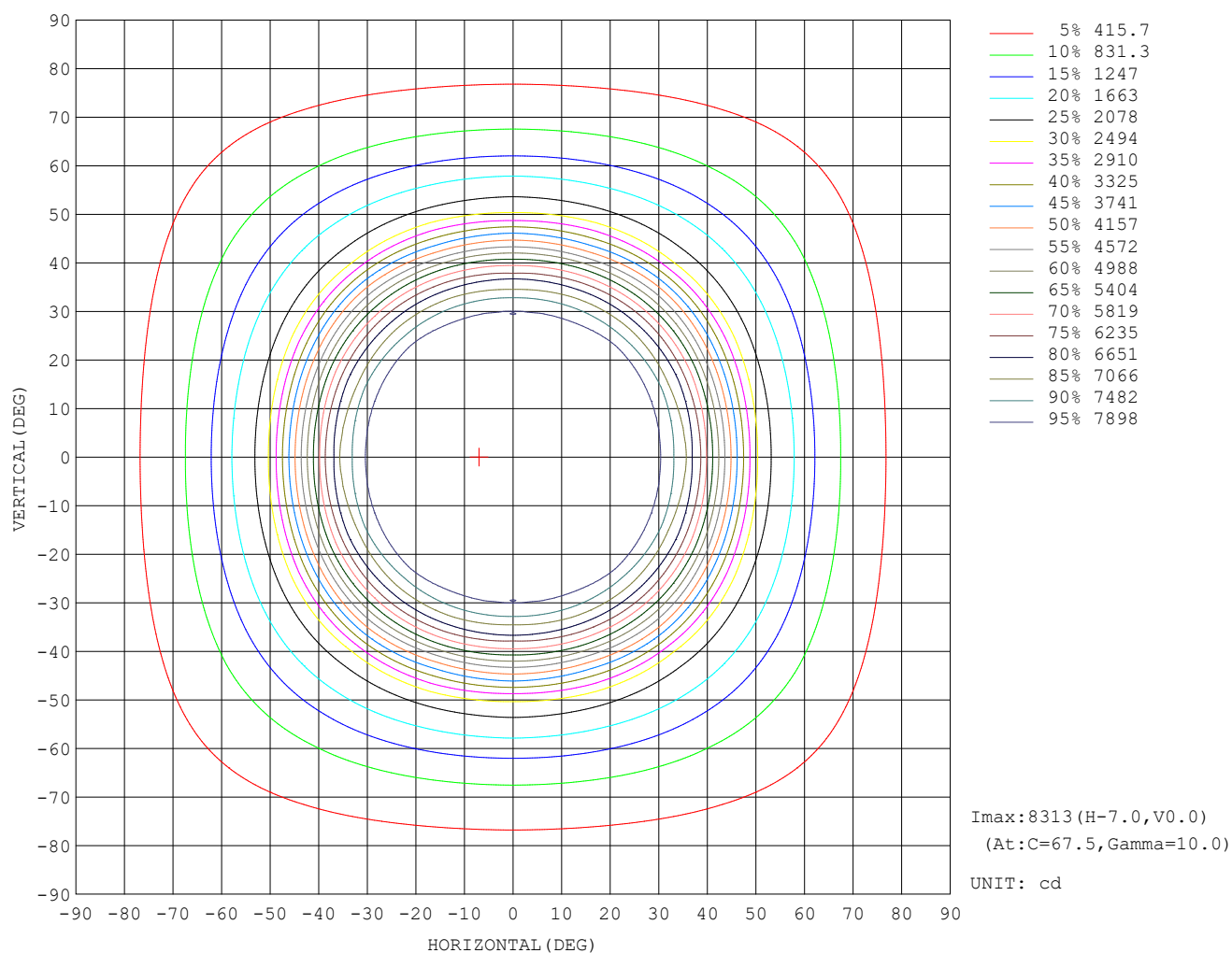
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	66	56	50	65	56	50	64	55	50	44
0.80	75	66	60	74	65	60	72	64	59	53
1.00	83	74	68	81	73	67	79	73	66	60
1.25	89	81	75	87	80	74	84	78	73	66
1.50	93	85	80	91	84	79	88	82	77	70
2.00	99	92	87	97	90	85	92	87	83	75
2.50	102	95	91	99	94	89	95	90	87	78
3.00	104	99	94	102	97	93	97	93	90	80
4.00	107	103	99	105	101	97	100	96	94	83
5.00	109	105	102	106	103	100	101	98	96	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators: ZZX
 Test Date: 2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4556]
 Remarks:

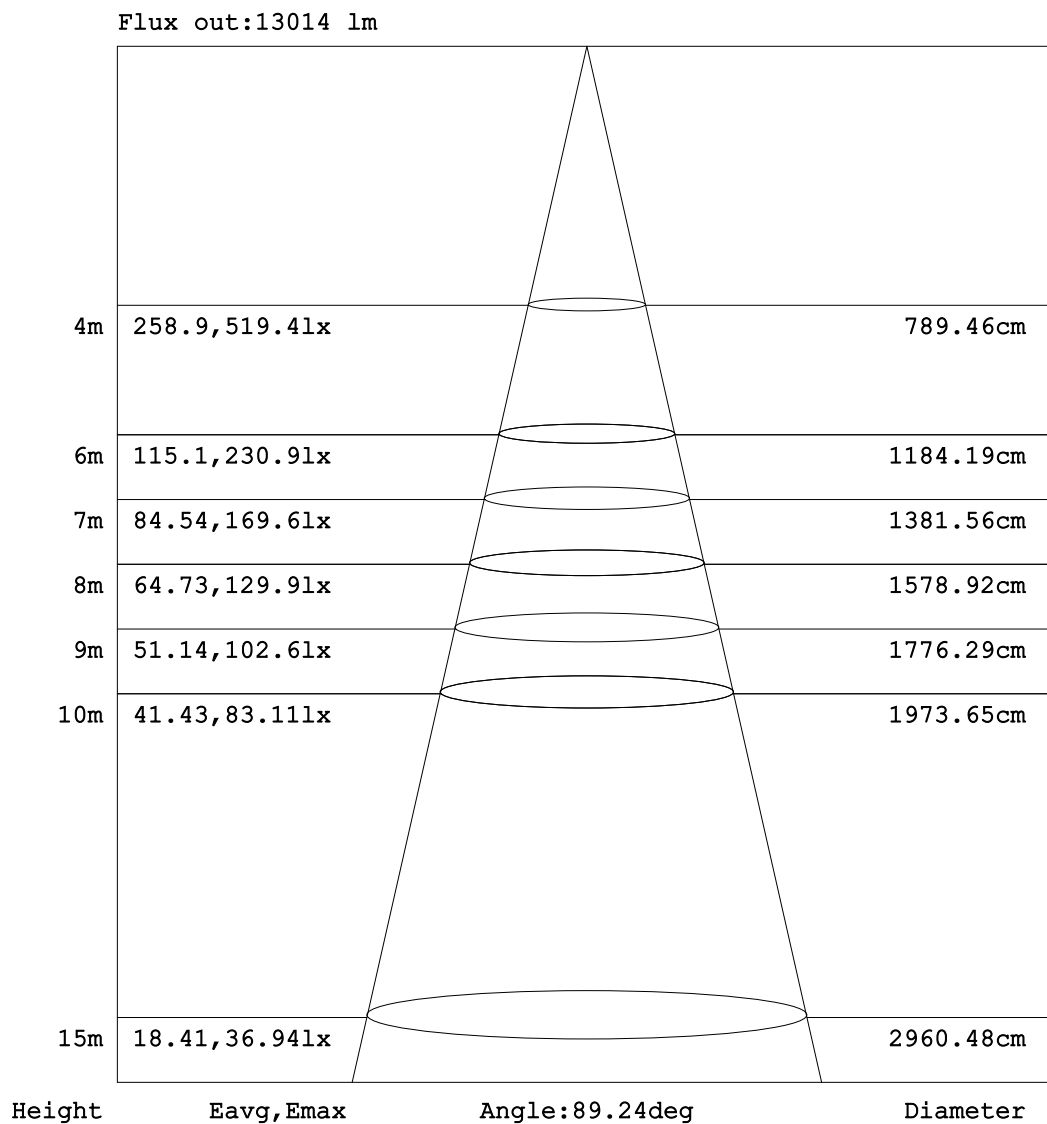
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

AAI Figure

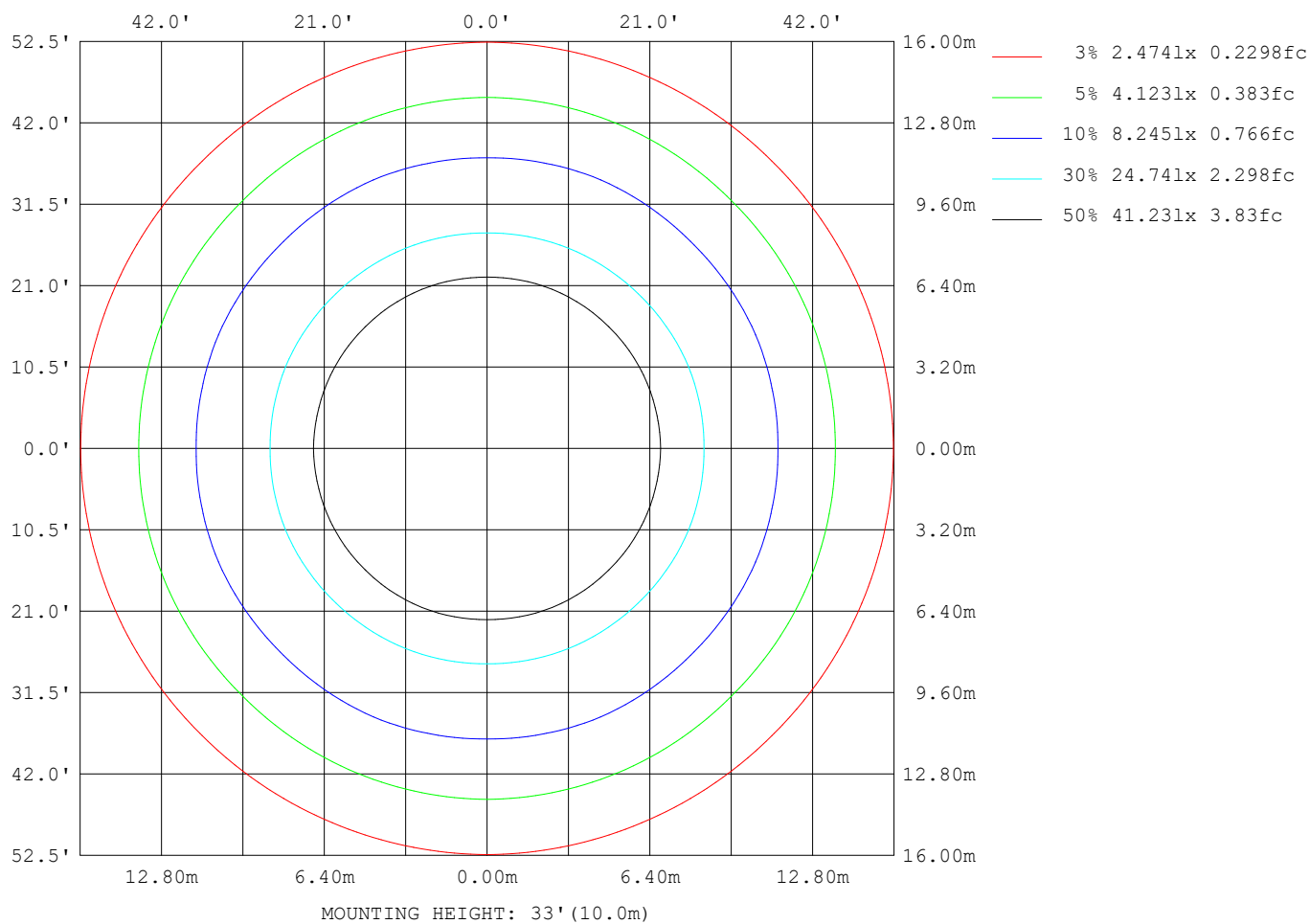


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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C Interval: 22.5DEG
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Operators: ZZX
Test Date: 2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
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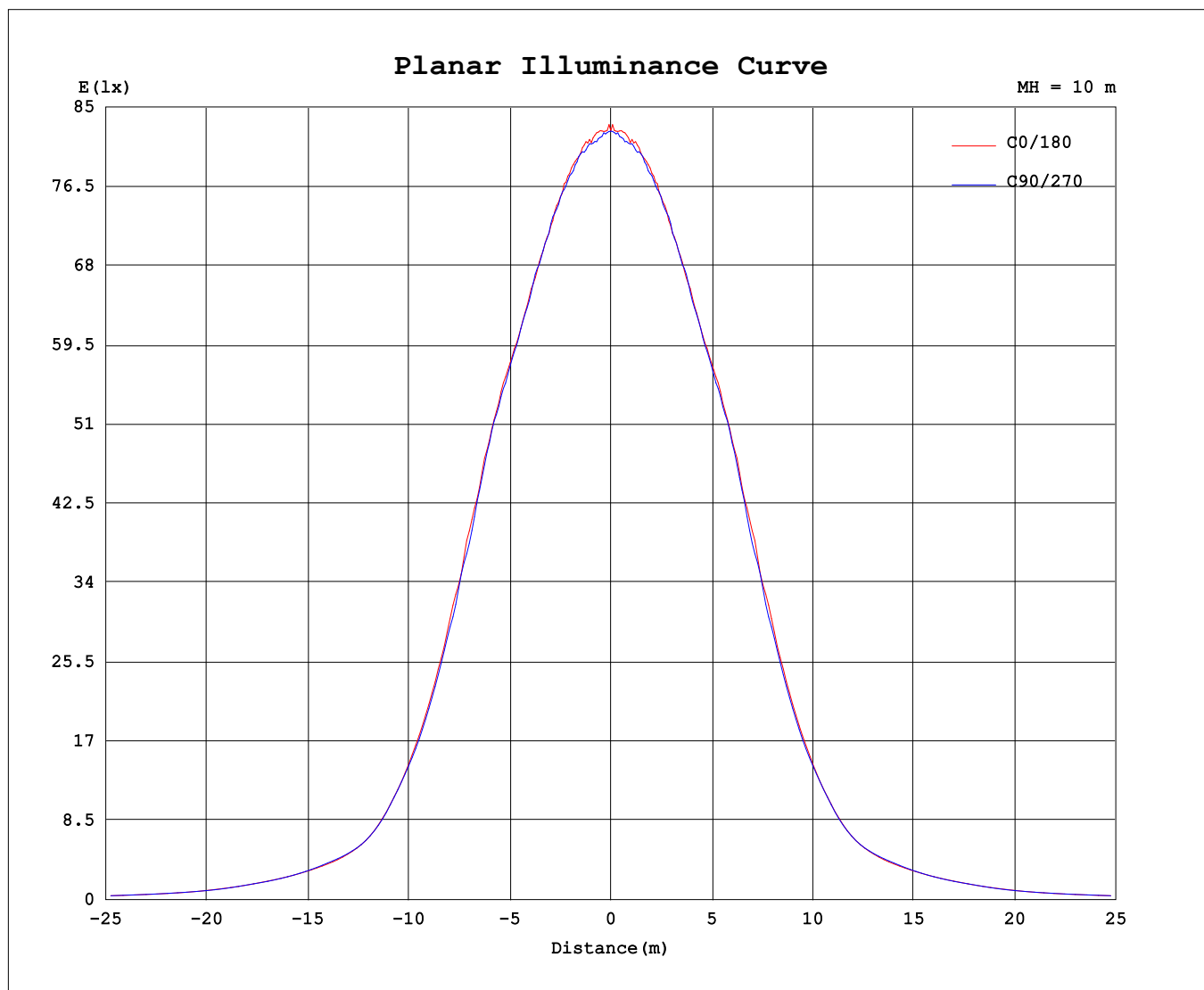
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZK
Test Date: 2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
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