

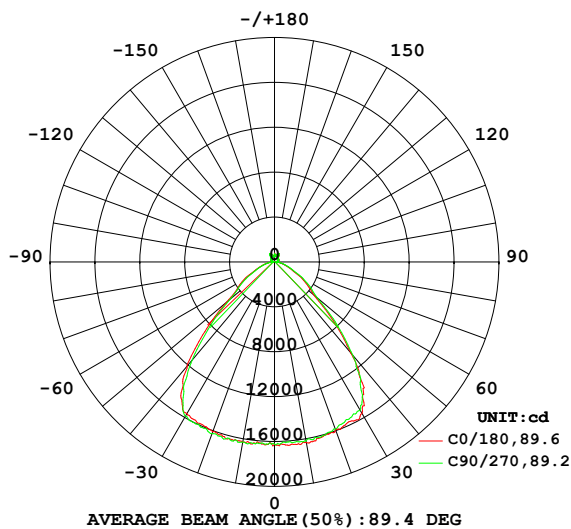
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

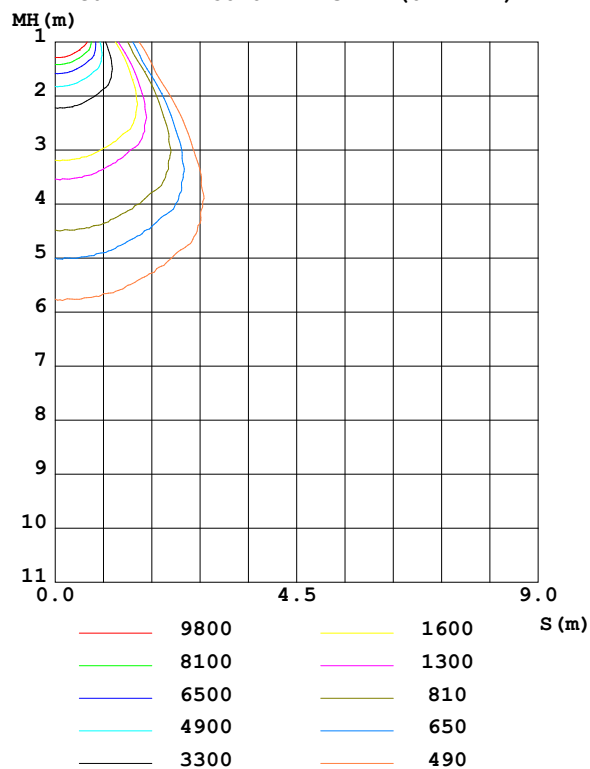
Test:U:230.0V I:0.880A P:198.7W PF:0.982 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:37507.5x1 lm		
NAME: HB68-200H-5070-H00192+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 188.78 lm/W			
MODEL	/	Imax (cd)	16564	S/MH (C0/180)	1.31
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.28
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	37508	η UP,DN (C0-180)	3.2,46.0
NOMINAL FLUX (lm)	37507.5	CIE CLASS	DIRECT	η UP,DN (C180-360)	3.2,47.5
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: 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

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1634	1632	1620	1617	1630	1640	1630	1641	0- 10	1554	1554	4.14,4.14
20	1592	1595	1586	1583	1610	1619	1628	1617	10- 20	4593	6148	16.4,16.4
30	1560	1514	1527	1546	1561	1594	1586	1599	20- 30	7329	13477	35.9,35.9
40	1058	1048	1086	1148	1213	1180	1141	1133	30- 40	8621	22098	58.9,58.9
50	459.1	458.2	497.6	506.8	555.1	545.8	515.3	475.6	40- 50	6192	28290	75.4,75.4
60	269.5	272.9	291.9	286.5	312.3	305.1	286.6	281.9	50- 60	3408	31698	84.5,84.5
70	124.1	123.8	138.0	138.8	148.2	148.2	140.8	136.3	60- 70	1990	33688	89.8,89.8
80	53.99	53.98	60.38	62.11	67.08	65.89	61.00	57.92	70- 80	1011	34699	92.5,92.5
90	17.10	17.46	18.64	19.98	20.93	20.32	18.90	18.27	80- 90	394.1	35093	93.6,93.6
100	21.62	21.37	21.69	20.91	19.44	19.31	19.71	21.80	90-100	190.7	35284	94.1,94.1
110	30.07	29.24	29.41	29.19	28.43	28.51	28.71	30.41	100-110	266.4	35551	94.8,94.8
120	34.39	33.51	33.83	33.71	33.07	33.11	34.07	35.87	110-120	317.1	35868	95.6,95.6
130	37.89	37.00	37.86	37.00	35.56	35.51	37.33	38.92	120-130	316.7	36184	96.5,96.5
140	51.96	49.58	48.96	45.91	44.53	45.19	49.88	52.57	130-140	319.1	36503	97.3,97.3
150	82.02	80.26	80.94	78.06	75.78	78.63	83.59	87.38	140-150	408.2	36912	98.4,98.4
160	66.57	71.74	74.84	77.61	74.41	72.57	70.42	71.22	150-160	376.6	37288	99.4,99.4
170	49.99	55.18	53.71	54.93	51.75	49.36	47.40	48.13	160-170	168.3	37457	99.9,99.9
180	71.54	81.00	69.68	77.32	71.64	80.94	69.62	77.30	170-180	51.00	37508	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 25665 lm

%lum = 68.4%

%lamp = 68.4%

Conical surface Flux(120deg): 31698 lm

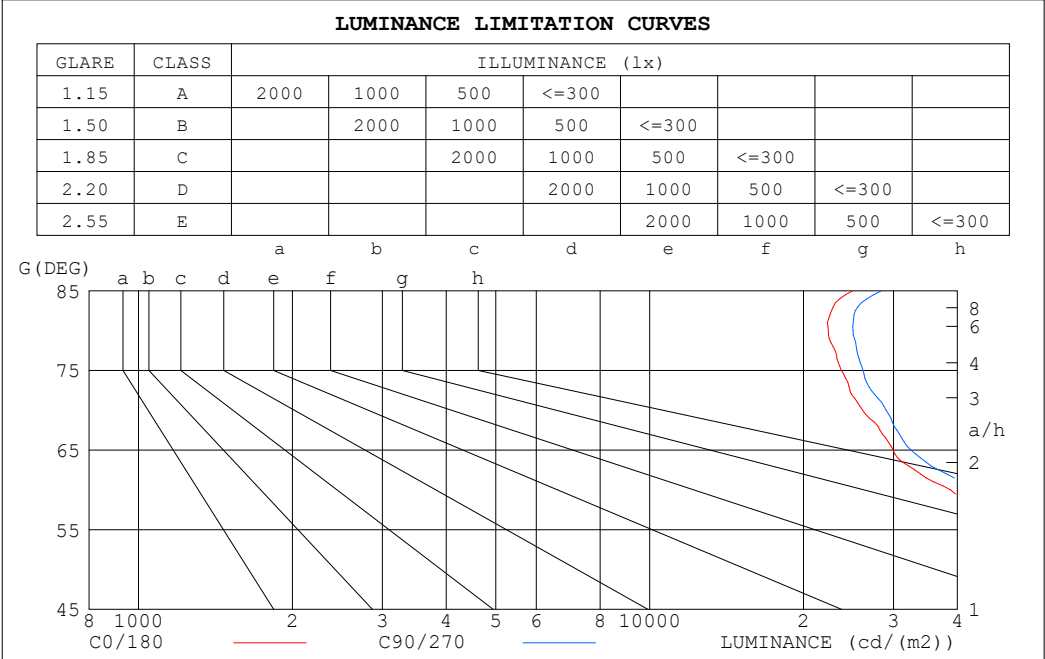
%lum = 84.5%

%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



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	24970	28392
80	22376	25007
75	23726	26162
70	26103	29018
65	29961	32466
60	38786	41990
55	44899	48852
50	51395	55680
45	75656	79637

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3℃

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%

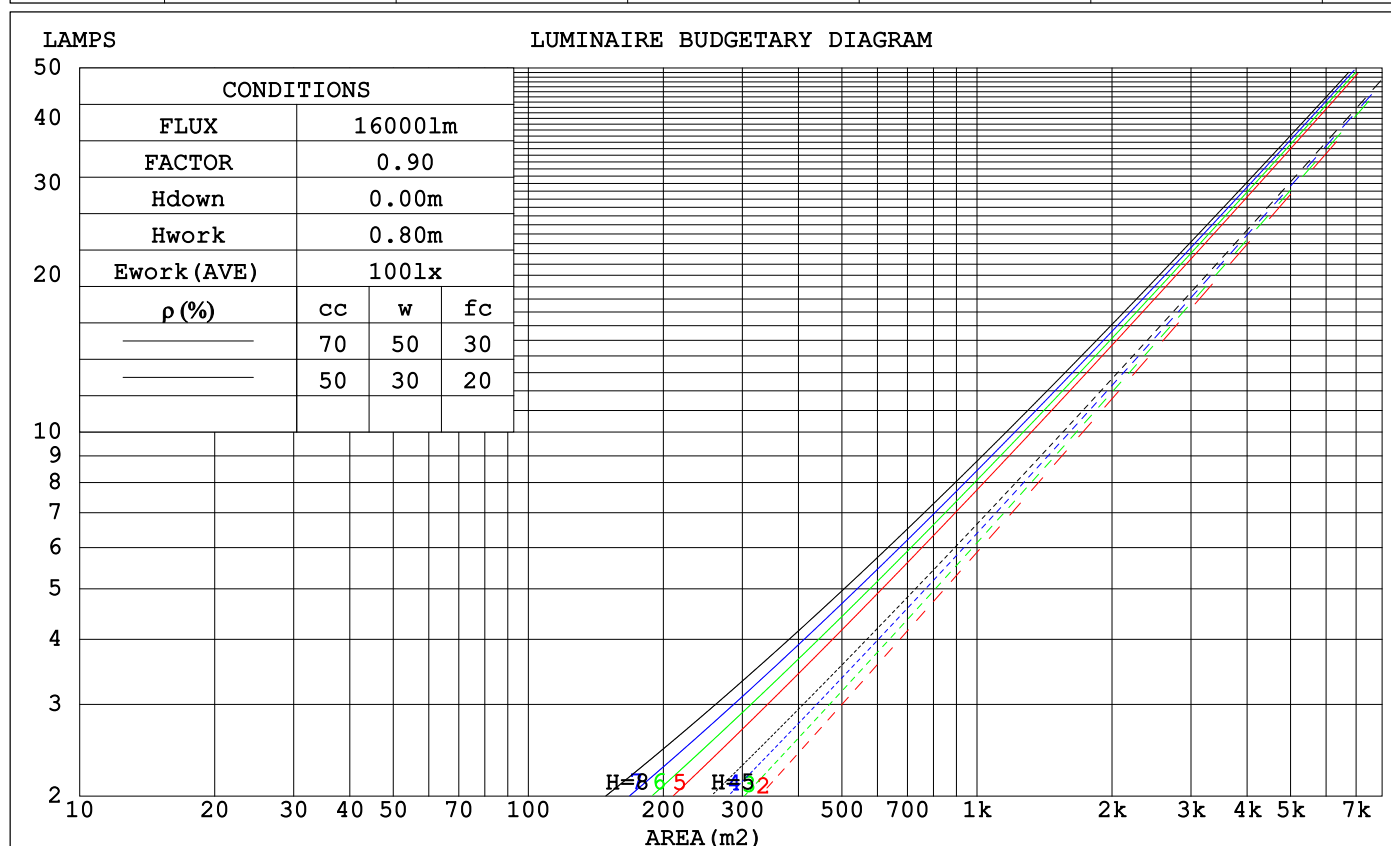
Test Distance:26.000m [K=0.4556]

Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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
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

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	22.7	24.0	23.2	24.4	24.9	23.4	24.6	23.8	25.1	25.6
3H	23.8	24.9	24.3	25.4	25.9	24.4	25.5	24.9	26.0	26.5
4H	24.2	25.2	24.7	25.7	26.3	24.8	25.9	25.3	26.3	26.9
6H	24.5	25.5	25.0	26.0	26.5	25.1	26.1	25.6	26.6	27.1
8H	24.6	25.5	25.1	26.0	26.6	25.2	26.2	25.8	26.7	27.2
12H	24.7	25.6	25.2	26.1	26.7	25.4	26.2	25.9	26.7	27.3
4H 2H	23.0	24.1	23.5	24.6	25.1	23.7	24.7	24.2	25.2	25.8
3H	24.3	25.2	24.8	25.7	26.2	24.9	25.8	25.5	26.3	26.9
4H	24.8	25.6	25.3	26.1	26.7	25.5	26.2	26.0	26.8	27.4
6H	25.2	25.9	25.8	26.5	27.1	25.9	26.6	26.5	27.2	27.8
8H	25.4	26.0	26.0	26.6	27.2	26.1	26.7	26.7	27.3	27.9
12H	25.5	26.1	26.1	26.7	27.3	26.3	26.8	26.9	27.4	28.0
8H 4H	25.0	25.6	25.5	26.1	26.8	25.6	26.3	26.2	26.8	27.4
6H	25.5	26.0	26.1	26.6	27.3	26.2	26.7	26.8	27.4	28.0
8H	25.7	26.2	26.4	26.8	27.5	26.5	27.0	27.1	27.6	28.2
12H	26.0	26.4	26.6	27.0	27.7	26.8	27.2	27.4	27.8	28.5
12H 4H	25.0	25.5	25.5	26.1	26.7	25.6	26.2	26.2	26.8	27.4
6H	25.5	26.0	26.2	26.6	27.3	26.3	26.7	26.9	27.3	28.0
8H	25.8	26.2	26.4	26.8	27.5	26.6	27.0	27.2	27.6	28.3
CIE190: 2010										

CIE190: 2010
Area: 0.1392 m2

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

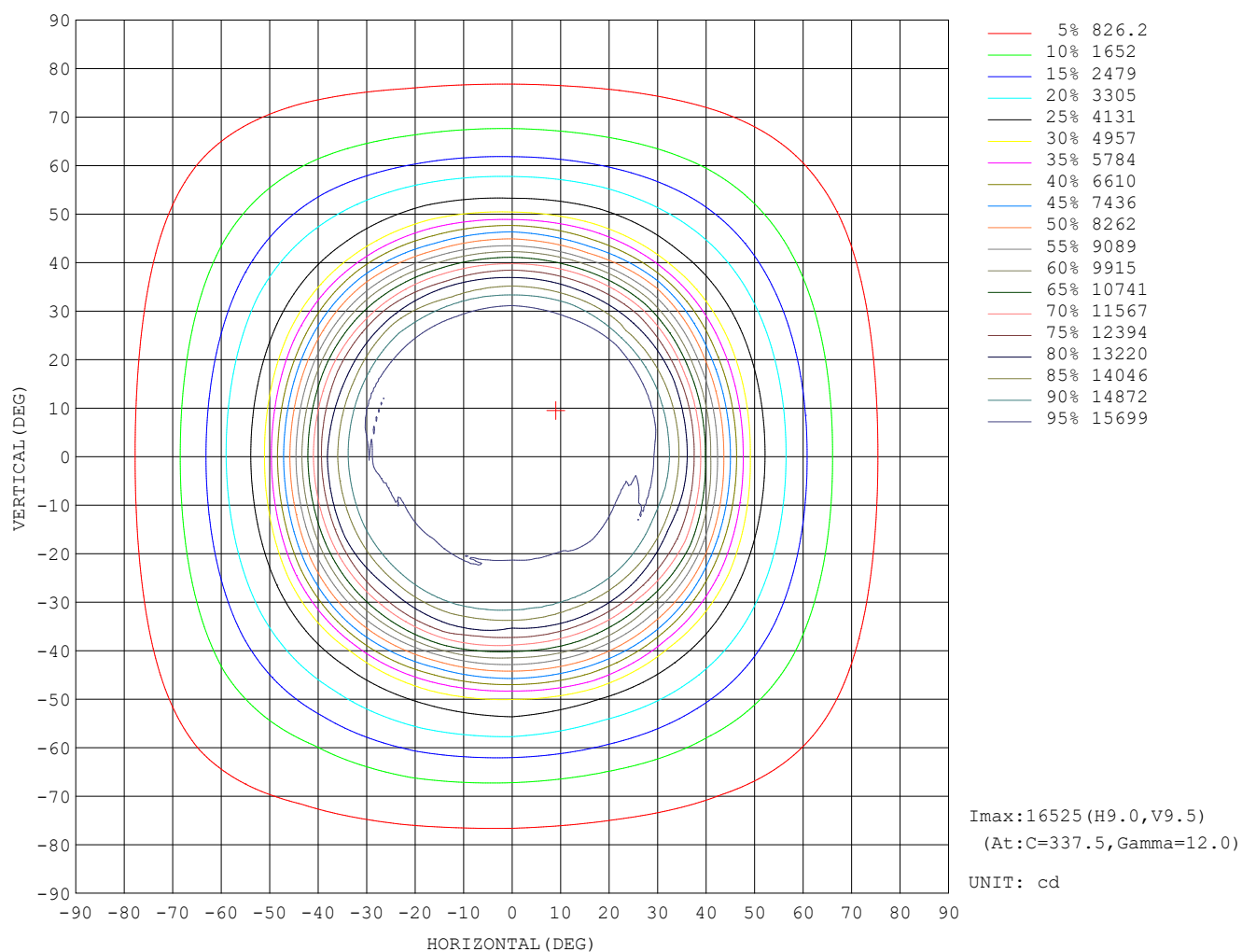
UTILIZATION FACTORS TABLE

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:

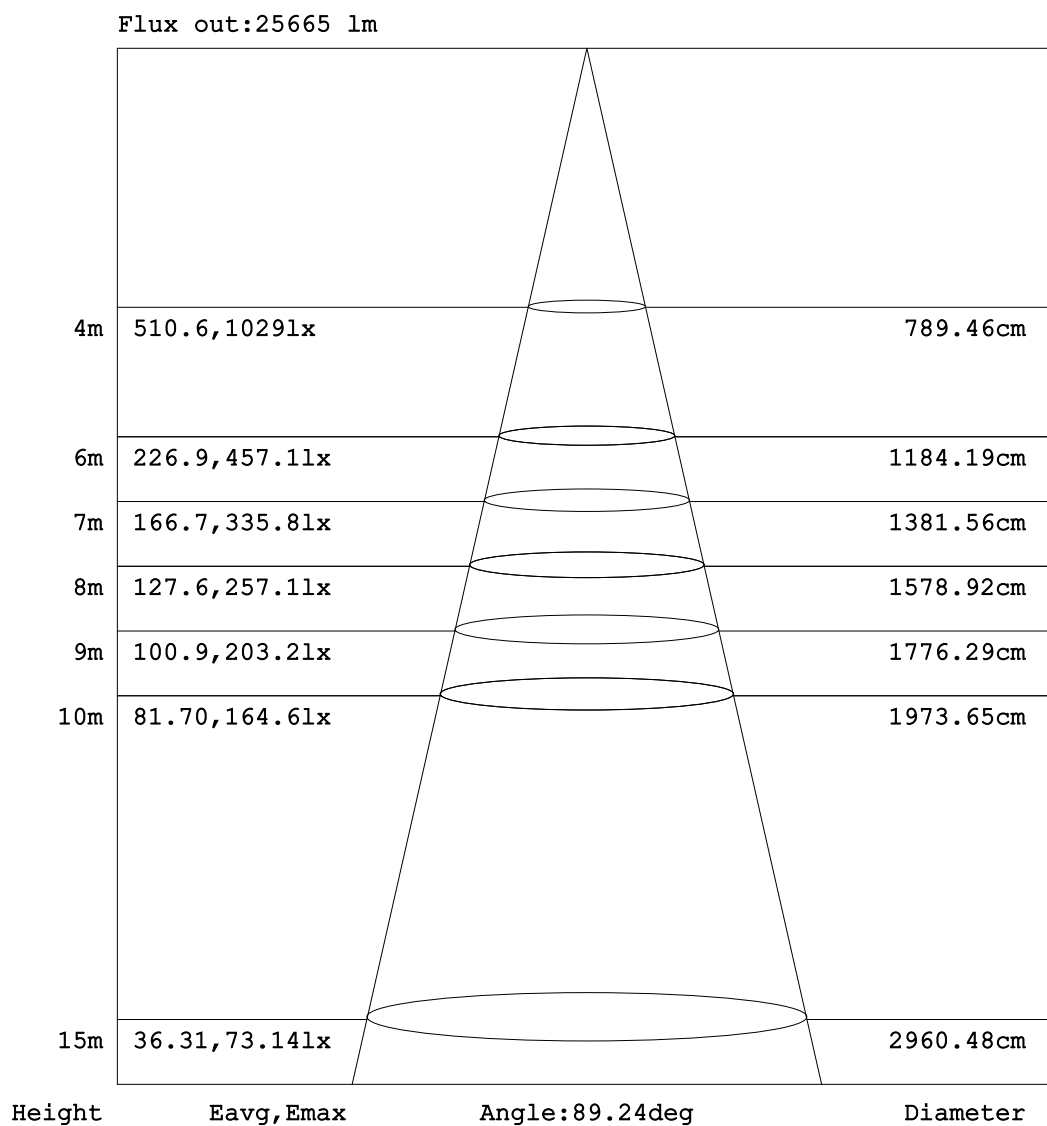
ISOCANDELA DIAGRAM



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



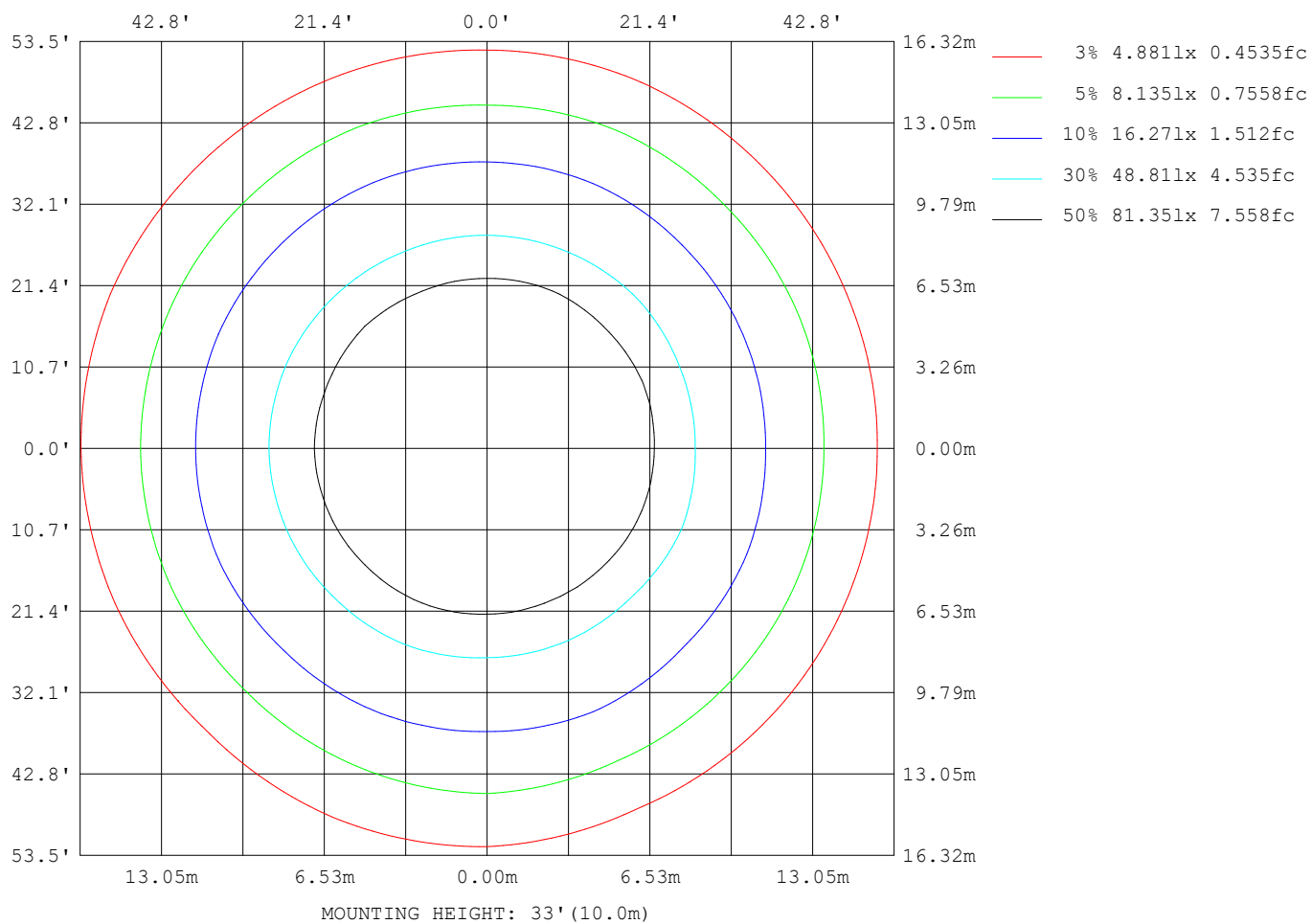
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

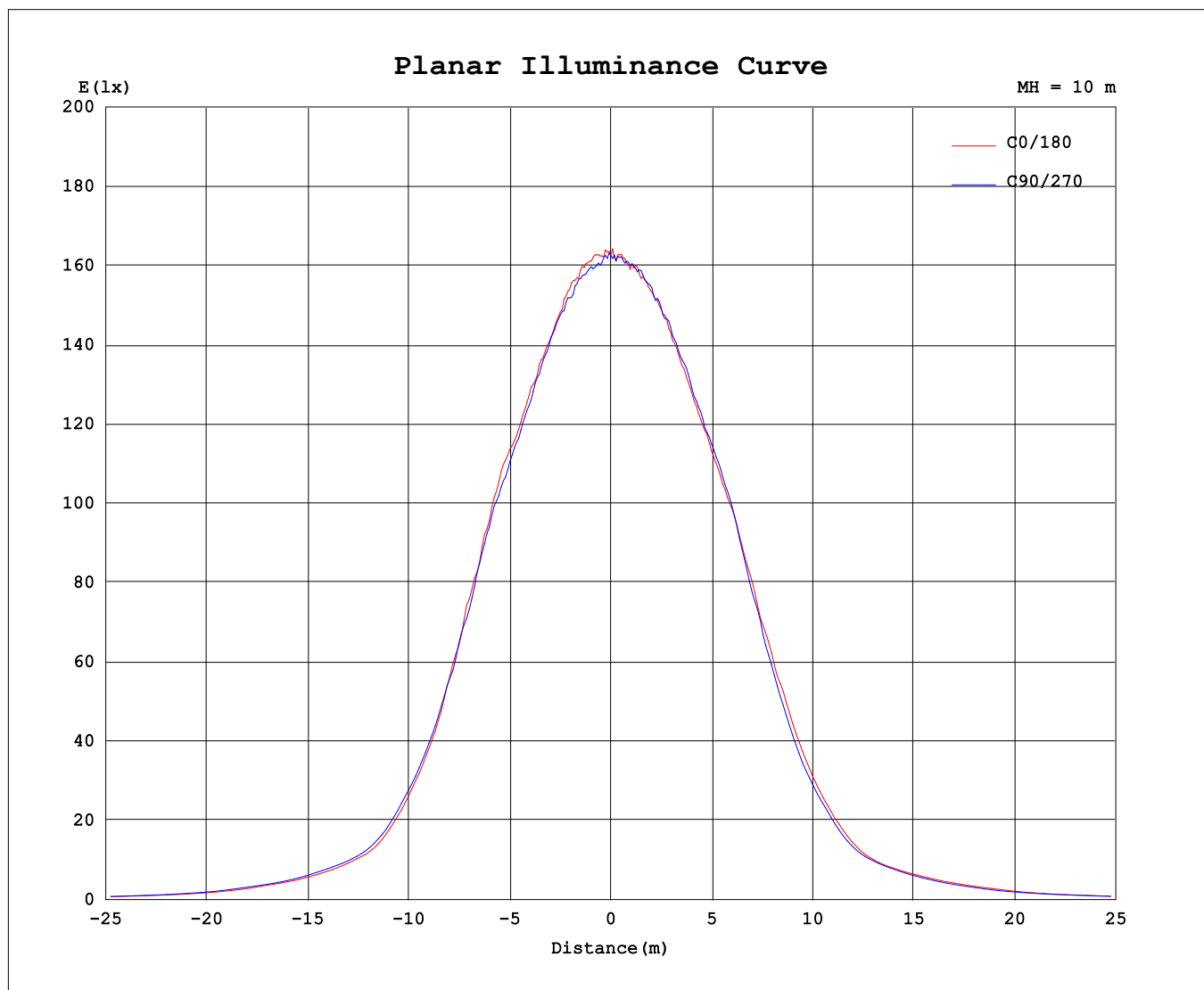
ISOLUX DIAGRAM



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:

Planar Illuminance Curve



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: