

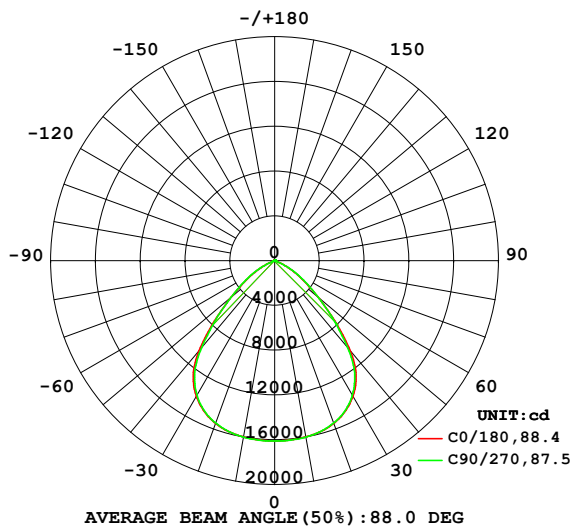
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

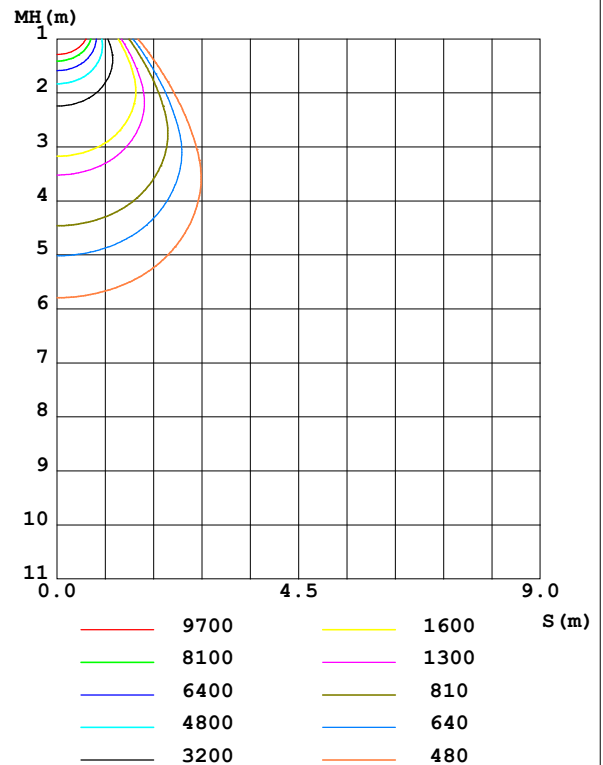
Test:U:229.8V I:0.657A P:148.1W PF:0.982 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:30401.3x1 lm		
NAME: HB68-150H-5070-H00198+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 205.22 lm/W			
MODEL	/	I _{max} (cd)	16116	S/MH(C0/180)	1.26
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	30401	η UP,DN(C0-180)	0.1,49.9
NOMINAL FLUX(lm)	30401.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.1,49.9
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	/	η down (%)	99.7	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



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

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1599	1599	1601	1599	1599	1599	1601	1599	0- 10	1532	1532	5.04,5.04
20	1547	1546	1544	1546	1547	1546	1544	1546	10- 20	4466	5998	19.7,19.7
30	1400	1395	1388	1395	1400	1395	1388	1395	20- 30	6830	12828	42.2,42.2
40	1050	1036	1016	1036	1050	1036	1016	1036	30- 40	7774	20602	67.8,67.8
50	504.7	505.4	508.4	505.4	504.7	505.4	508.4	505.4	40- 50	5805	26407	86.9,86.9
60	196.7	206.2	209.0	206.2	196.7	206.2	209.0	206.2	50- 60	3012	29419	96.8,96.8
70	12.56	12.89	13.67	12.89	12.56	12.89	13.67	12.89	60- 70	823.1	30243	99.5,99.5
80	2.571	2.727	2.965	2.727	2.571	2.727	2.965	2.727	70- 80	58.20	30301	99.7,99.7
90	0.1104	0.0644	0.0753	0.0644	0.1104	0.0644	0.0753	0.0644	80- 90	14.19	30315	99.7,99.7
100	0.0843	0.0897	0.0896	0.0897	0.0843	0.0897	0.0896	0.0897	90-100	0.3991	30315	99.7,99.7
110	0.3755	0.3800	0.3777	0.3800	0.3755	0.3800	0.3777	0.3800	100-110	2.230	30318	99.7,99.7
120	0.9456	0.9437	0.9263	0.9437	0.9456	0.9437	0.9263	0.9437	110-120	6.282	30324	99.7,99.7
130	1.742	1.736	1.724	1.736	1.742	1.736	1.724	1.736	120-130	11.90	30336	99.8,99.8
140	2.510	2.527	2.518	2.527	2.510	2.527	2.518	2.527	130-140	16.45	30352	99.8,99.8
150	3.130	3.167	3.163	3.167	3.130	3.167	3.163	3.167	140-150	17.84	30370	99.9,99.9
160	3.418	3.473	3.476	3.473	3.418	3.473	3.476	3.473	150-160	15.33	30385	99.9,99.9
170	4.664	4.740	4.753	4.740	4.664	4.740	4.753	4.740	160-170	11.20	30397	100,100
180	5.045	5.097	5.099	5.097	5.045	5.097	5.099	5.097	170-180	4.786	30401	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 23883 lm

%lum = 78.6%

%lamp = 78.6%

Conical surface Flux(120deg): 29419 lm

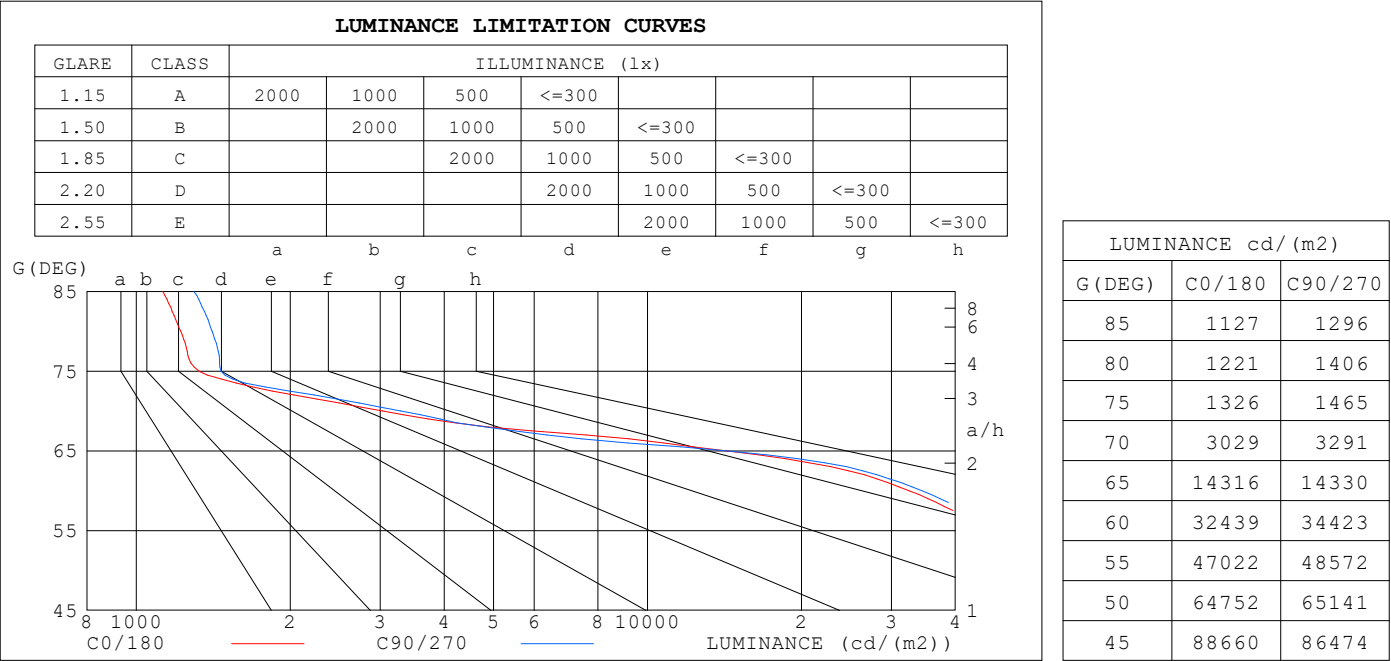
%lum = 96.8%

%lamp = 96.8%

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:

LUMINANCE LIMITATION CURVES



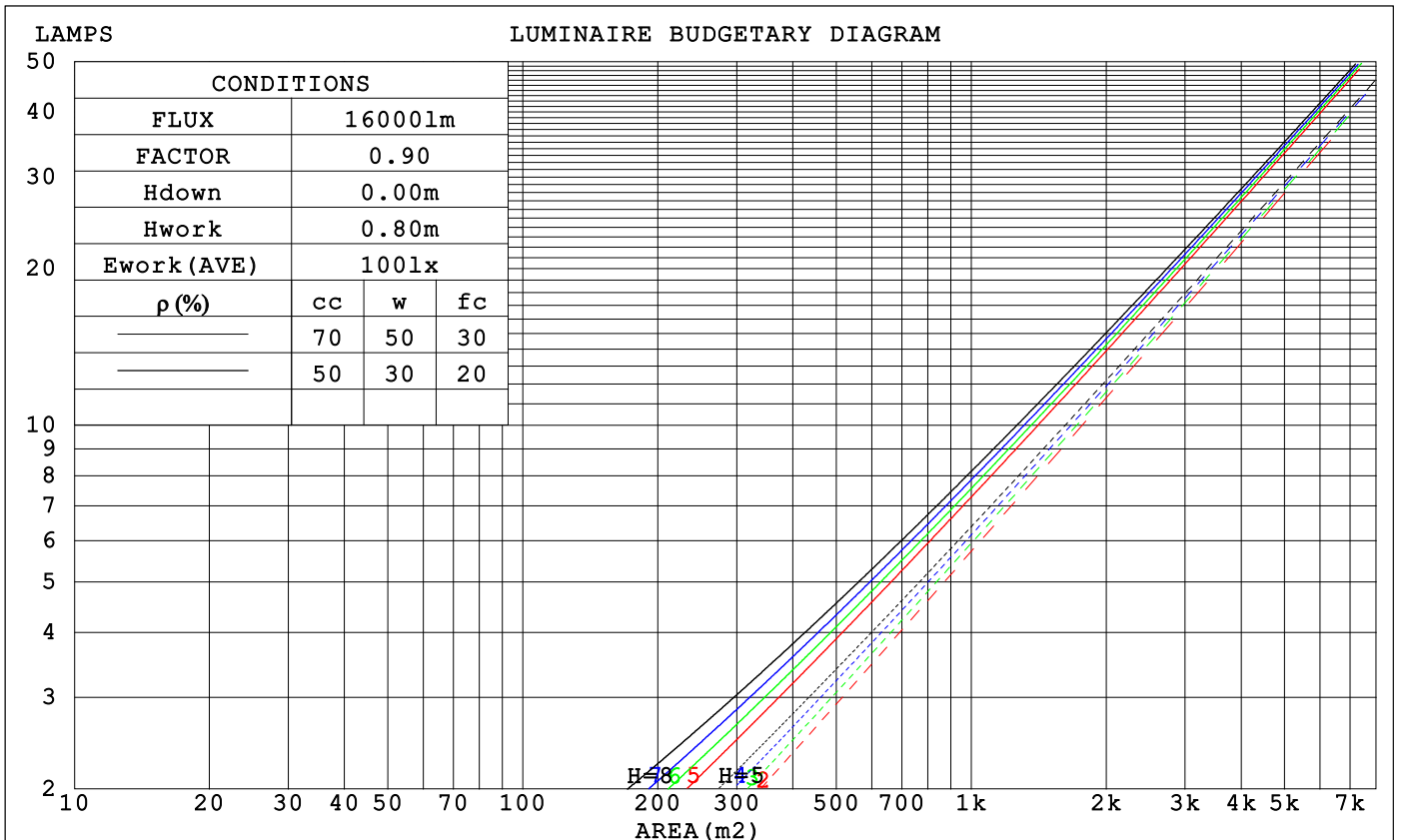
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C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

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	1.19	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	1.09	1.05	1.03	1.06	1.04	1.01	1.02	.00	.98	.98	.97	.95	.95	.93	.92	.90
2.0	.98	.93	.89	.97	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.82	.78	.75	.80	.76	.73	.71
4.0	.81	.74	.69	.80	.73	.68	.77	.72	.67	.75	.70	.66	.73	.69	.66	.64
5.0	.74	.66	.61	.73	.66	.61	.71	.65	.60	.69	.64	.59	.67	.62	.59	.57
6.0	.67	.60	.55	.67	.59	.54	.65	.59	.54	.63	.58	.53	.62	.57	.53	.51
7.0	.62	.54	.49	.61	.54	.49	.60	.53	.49	.58	.53	.48	.57	.52	.48	.46
8.0	.57	.50	.45	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.45	.41	.52	.45	.40	.51	.45	.40	.50	.44	.40	.49	.44	.40	.38
10.0	.49	.42	.37	.48	.42	.37	.47	.41	.37	.47	.41	.37	.46	.40	.37	.35



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

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	.219	.125	.039	.212	.121	.038	.199	.114	.037	.187	.108	.035	.176	.102	.033	
2.0	.215	.118	.036	.209	.115	.036	.198	.110	.034	.188	.105	.033	.178	.101	.032	
3.0	.207	.110	.033	.202	.108	.033	.192	.104	.032	.183	.100	.031	.175	.097	.030	
4.0	.198	.103	.030	.193	.101	.030	.184	.098	.029	.176	.095	.029	.169	.092	.028	
5.0	.188	.096	.028	.184	.094	.027	.176	.092	.027	.169	.089	.027	.162	.087	.026	
6.0	.178	.089	.026	.175	.088	.025	.168	.086	.025	.162	.084	.025	.156	.082	.024	
7.0	.169	.084	.024	.166	.083	.024	.160	.081	.023	.154	.079	.023	.149	.077	.023	
8.0	.161	.078	.022	.158	.078	.022	.152	.076	.022	.147	.075	.022	.142	.073	.021	
9.0	.153	.074	.021	.150	.073	.021	.145	.072	.020	.141	.070	.020	.136	.069	.020	
10.0	.145	.070	.019	.143	.069	.019	.139	.068	.019	.134	.067	.019	.130	.066	.019	

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	.193	.193	.193	.165	.165	.165	.112	.112	.112	.065	.065	.065	.021	.021	.021	
1.0	.176	.159	.144	.151	.137	.124	.103	.094	.086	.059	.054	.050	.019	.018	.016	
2.0	.164	.134	.109	.141	.116	.095	.096	.080	.066	.056	.047	.039	.018	.015	.013	
3.0	.155	.116	.085	.133	.100	.074	.091	.070	.052	.053	.041	.031	.017	.013	.010	
4.0	.146	.102	.068	.126	.088	.059	.086	.061	.042	.050	.036	.025	.016	.012	.008	
5.0	.139	.091	.056	.119	.079	.048	.082	.055	.034	.048	.032	.020	.015	.011	.007	
6.0	.132	.082	.046	.114	.071	.040	.079	.050	.029	.046	.029	.017	.015	.010	.006	
7.0	.126	.075	.039	.109	.065	.034	.075	.046	.024	.044	.027	.015	.014	.009	.005	
8.0	.121	.069	.034	.104	.060	.030	.072	.042	.021	.042	.025	.013	.014	.008	.004	
9.0	.116	.065	.030	.100	.056	.026	.069	.039	.019	.040	.023	.011	.013	.008	.004	
10.0	.111	.060	.027	.096	.052	.023	.066	.037	.017	.039	.022	.010	.013	.007	.003	

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

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	23.2	24.5	23.5	24.8	25.1	22.7	24.1	23.1	24.4	24.7
3H	23.1	24.2	23.4	24.5	24.9	22.6	23.8	23.0	24.1	24.5
4H	23.0	24.1	23.4	24.4	24.8	22.6	23.6	23.0	24.0	24.4
6H	22.9	23.9	23.3	24.3	24.7	22.5	23.5	22.9	23.8	24.2
8H	22.9	23.8	23.3	24.2	24.6	22.4	23.4	22.9	23.8	24.2
12H	22.8	23.7	23.3	24.1	24.5	22.4	23.3	22.8	23.7	24.1
4H 2H	23.1	24.2	23.5	24.5	24.9	22.7	23.8	23.1	24.1	24.5
3H	23.0	23.9	23.4	24.3	24.7	22.6	23.5	23.0	23.9	24.3
4H	22.9	23.7	23.4	24.1	24.6	22.5	23.3	23.0	23.7	24.2
6H	22.8	23.5	23.3	23.9	24.4	22.4	23.1	22.9	23.5	24.0
8H	22.8	23.4	23.3	23.8	24.3	22.4	23.0	22.9	23.4	23.9
12H	22.7	23.3	23.2	23.8	24.2	22.3	22.9	22.8	23.4	23.8
8H 4H	22.8	23.4	23.2	23.8	24.3	22.4	23.0	22.9	23.4	23.9
6H	22.7	23.2	23.2	23.7	24.2	22.3	22.8	22.8	23.3	23.8
8H	22.6	23.1	23.1	23.6	24.1	22.2	22.7	22.7	23.2	23.7
12H	22.6	23.0	23.1	23.5	24.0	22.2	22.6	22.7	23.1	23.6
12H 4H	22.7	23.3	23.2	23.8	24.2	22.3	22.9	22.8	23.4	23.8
6H	22.6	23.1	23.1	23.5	24.1	22.2	22.7	22.8	23.1	23.7
8H	22.6	23.0	23.1	23.5	24.0	22.2	22.6	22.7	23.1	23.6
CIE190: 2010										

CIE190: 2010
Area: 0.1213 m2

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

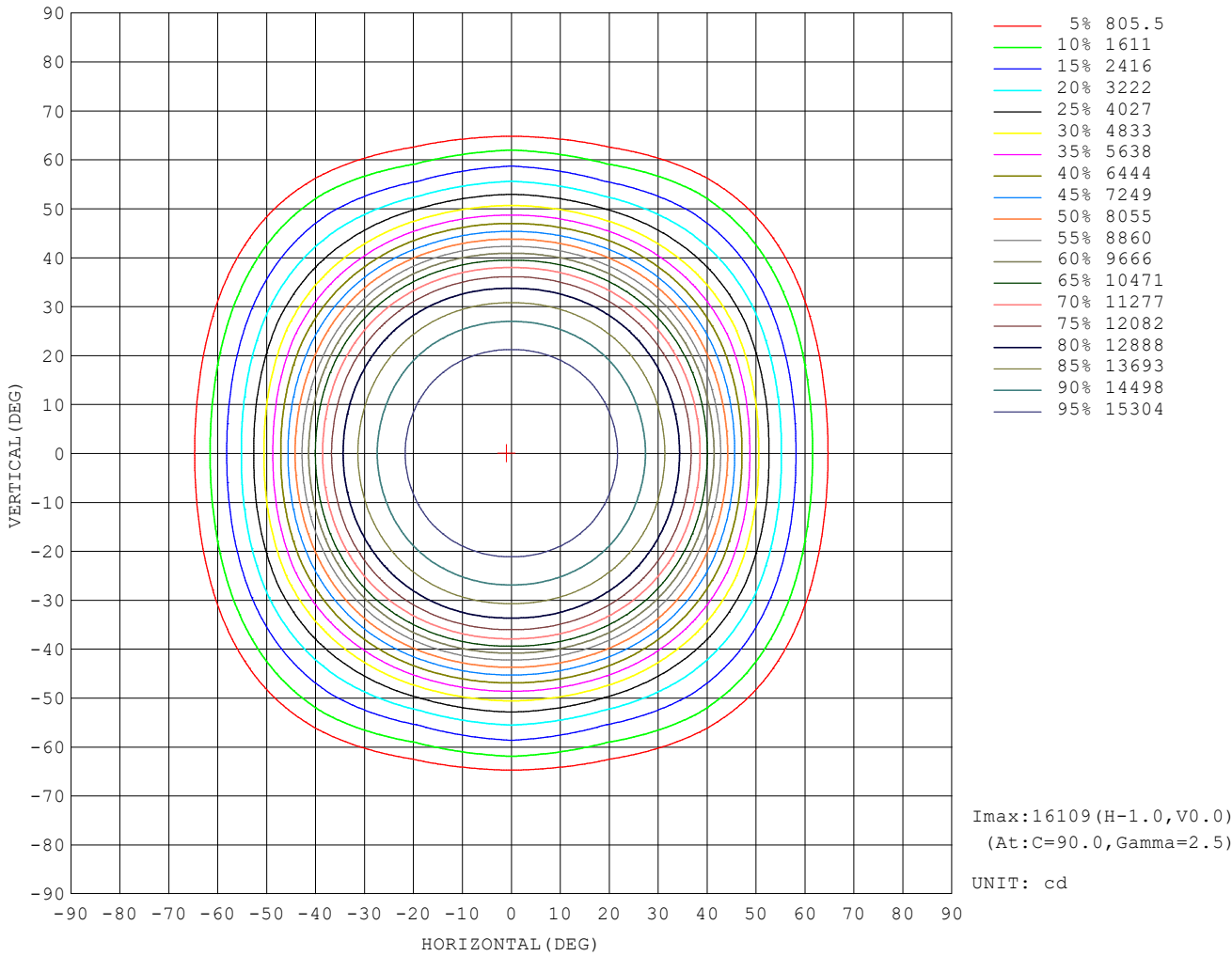
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	71	61	56	70	61	56	69	61	56	50
0.80	81	72	66	80	71	66	78	71	66	60
1.00	88	80	75	87	80	75	86	80	74	69
1.25	95	87	82	93	86	82	91	85	81	75
1.50	99	92	87	97	91	86	95	89	85	80
2.00	103	98	93	102	97	93	99	94	91	85
2.50	106	101	97	104	99	96	101	97	94	87
3.00	108	104	100	106	102	99	103	99	97	89
4.00	111	107	104	109	105	102	105	102	100	92
5.00	112	109	106	110	107	105	106	104	102	93
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%
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 Remarks:

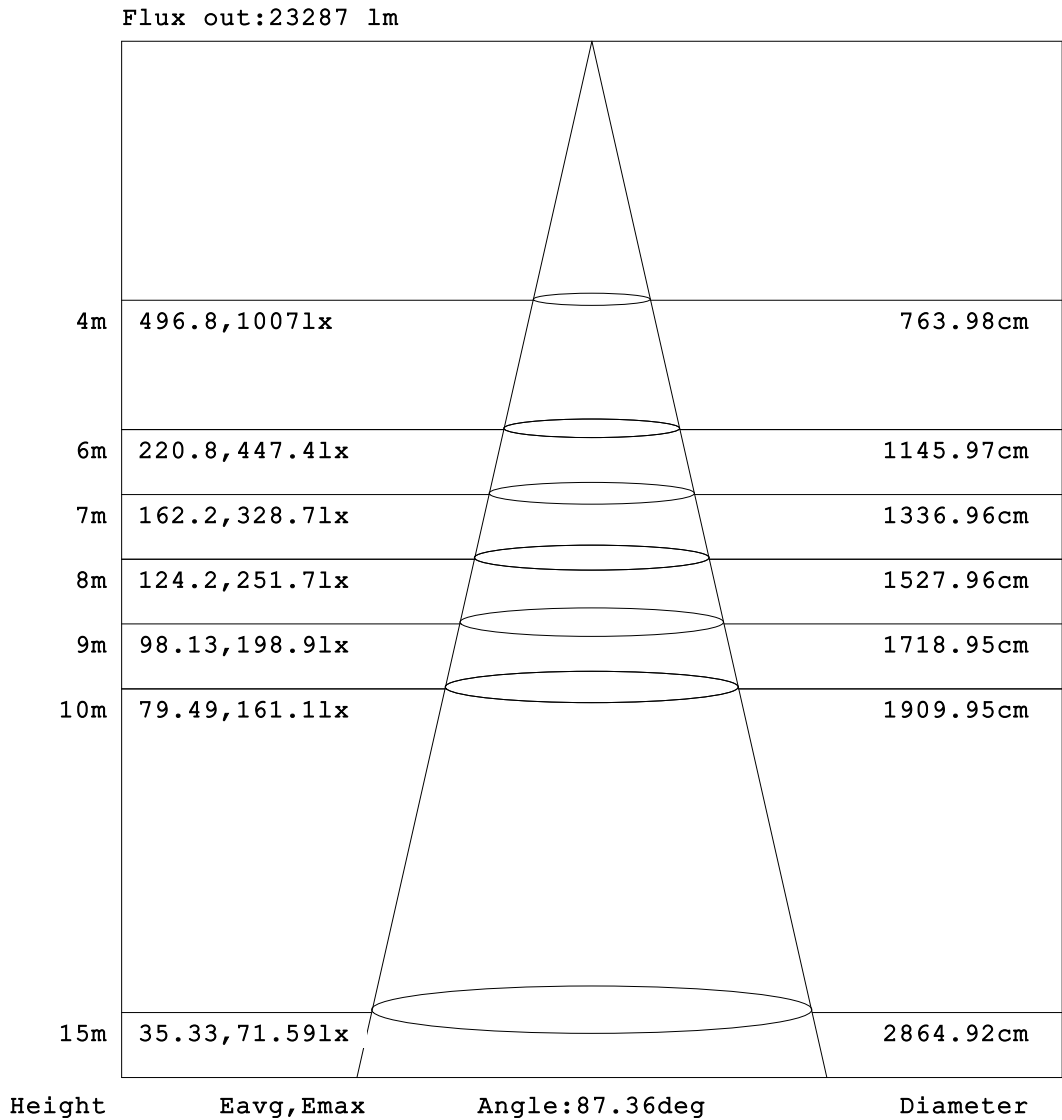
ISOCANDELA DIAGRAM



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:

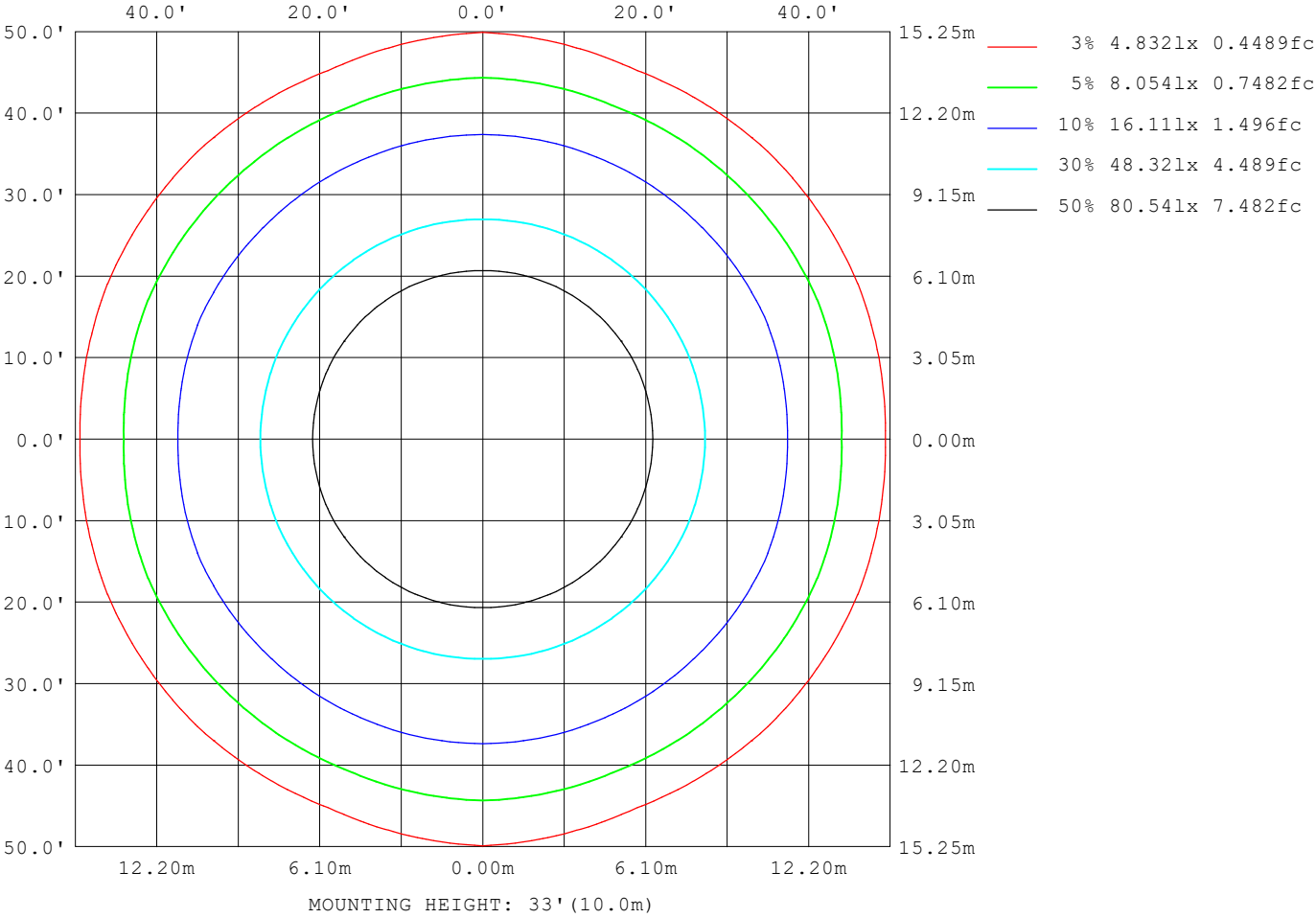
AAI Figure



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

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

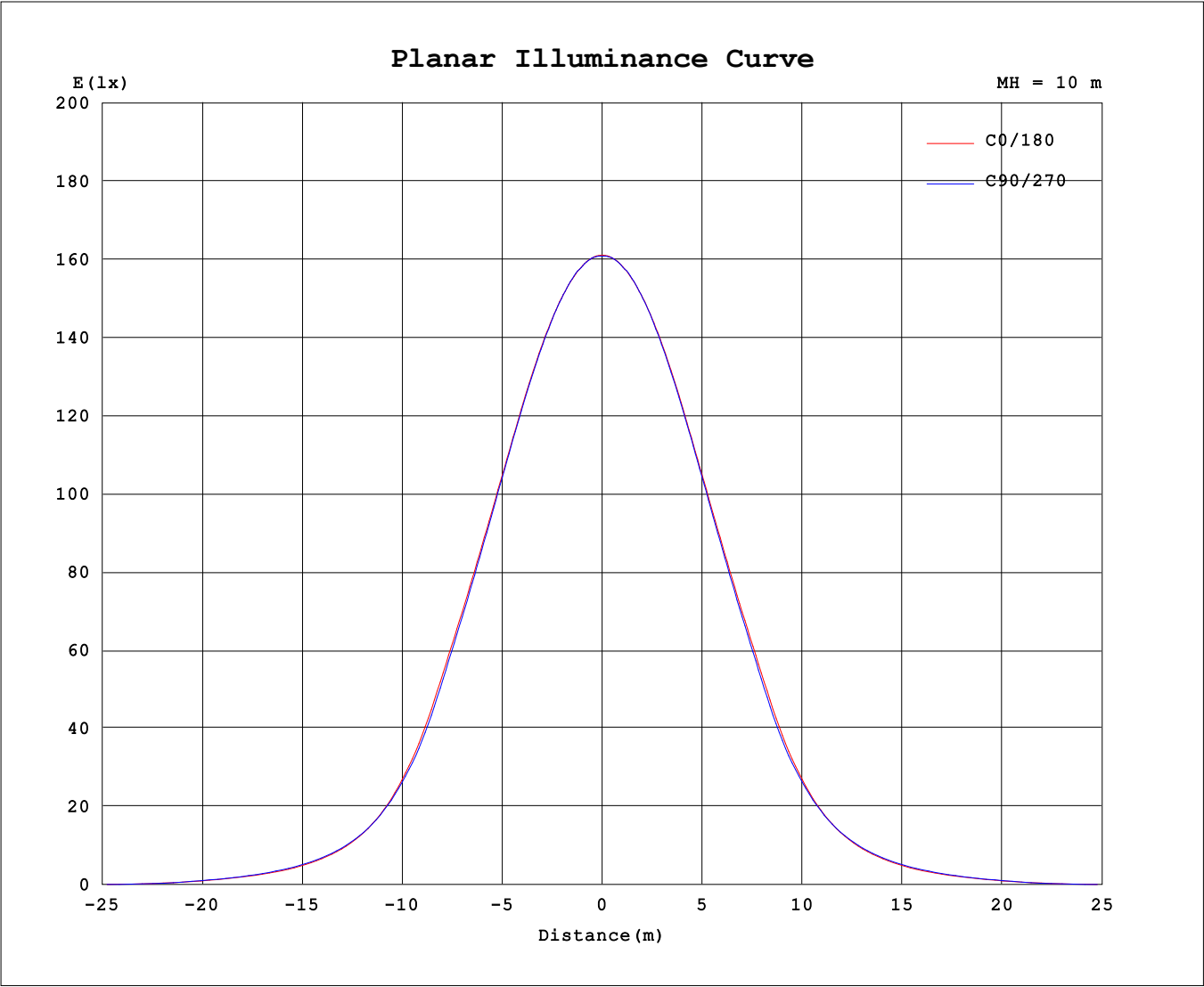
ISOLUX DIAGRAM



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	γ Range: 0 - 180DEG
C Interval: 22.5DEG	γ Interval: 0.5DEG
Test Speed: HIGH	Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Temperature:25.3℃	Humidity:65.0%
Operators:ZZX	Test Distance:26.000m [K=0.4556]
Test Date:2023-07-17	Remarks: