

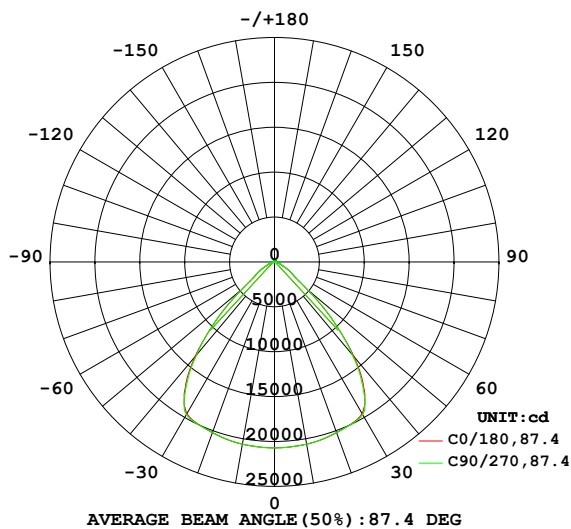
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

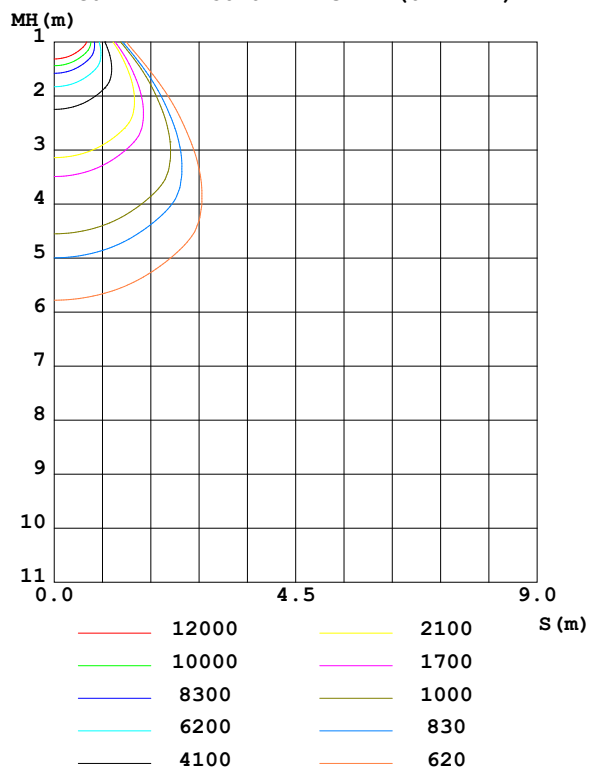
Test:U:230.0V I:0.880A P:198.8W PF:0.982 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:39284.4x1 lm		
NAME: HB68-200H-5070-H00192+H00C01A	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 197.65 lm/W			
MODEL	/	Imax (cd)	20716	S/MH (C0/180)	1.26
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	39284	η UP,DN (C0-180)	0.5,49.5
NOMINAL FLUX (lm)	39284.4	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.5,49.5
LAMPS INSIDE	1	η up (%)	1.1	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	/	η down (%)	98.9	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°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	2061	2063	2060	2063	2061	2063	2060	2063	0- 10	1972	1972	5.02,5.02
20	2023	2025	2020	2025	2023	2025	2020	2025	10- 20	5791	7763	19.8,19.8
30	1953	1962	1962	1962	1953	1962	1962	1962	20- 30	9241	17004	43.3,43.3
40	1379	1374	1347	1374	1379	1374	1347	1374	30- 40	10693	27698	70.5,70.5
50	475.4	471.8	475.6	471.8	475.4	471.8	475.6	471.8	40- 50	7035	34732	88.4,88.4
60	177.5	175.4	175.8	175.4	177.5	175.4	175.8	175.4	50- 60	2469	37201	94.7,94.7
70	64.59	64.97	65.06	64.97	64.59	64.97	65.06	64.97	60- 70	1077	38278	97.4,97.4
80	24.19	23.76	22.97	23.76	24.19	23.76	22.97	23.76	70- 80	441.0	38719	98.6,98.6
90	7.125	6.968	6.624	6.968	7.125	6.968	6.624	6.968	80- 90	148.4	38868	98.9,98.9
100	3.771	4.168	3.996	4.168	3.771	4.168	3.996	4.168	90-100	52.81	38920	99.1,99.1
110	4.119	4.308	3.988	4.308	4.119	4.308	3.988	4.308	100-110	41.38	38962	99.2,99.2
120	5.661	6.018	5.478	6.018	5.661	6.018	5.478	6.018	110-120	47.78	39010	99.3,99.3
130	7.914	8.312	8.282	8.312	7.914	8.312	8.282	8.312	120-130	60.94	39070	99.5,99.5
140	9.007	9.192	9.237	9.192	9.007	9.192	9.237	9.192	130-140	69.02	39140	99.6,99.6
150	9.555	9.790	9.851	9.790	9.555	9.790	9.851	9.790	140-150	59.74	39199	99.8,99.8
160	9.356	9.468	9.504	9.468	9.356	9.468	9.504	9.468	150-160	44.80	39244	99.9,99.9
170	11.22	11.24	11.23	11.24	11.22	11.24	11.23	11.24	160-170	29.07	39273	100,100
180	12.10	12.30	12.29	12.30	12.10	12.30	12.29	12.30	170-180	11.30	39284	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 31933 lm

%lum = 81.3%

%lamp = 81.3%

Conical surface Flux(120deg): 37201 lm

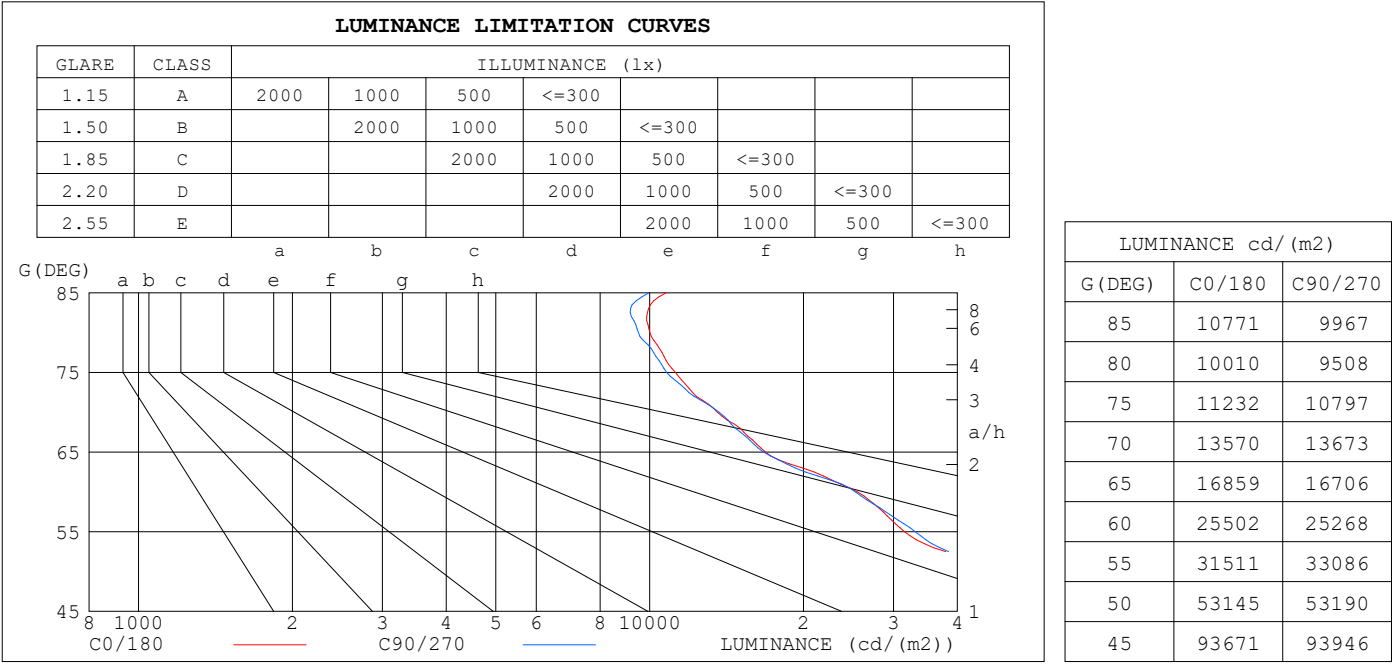
%lum = 94.7%

%lamp = 94.7%

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



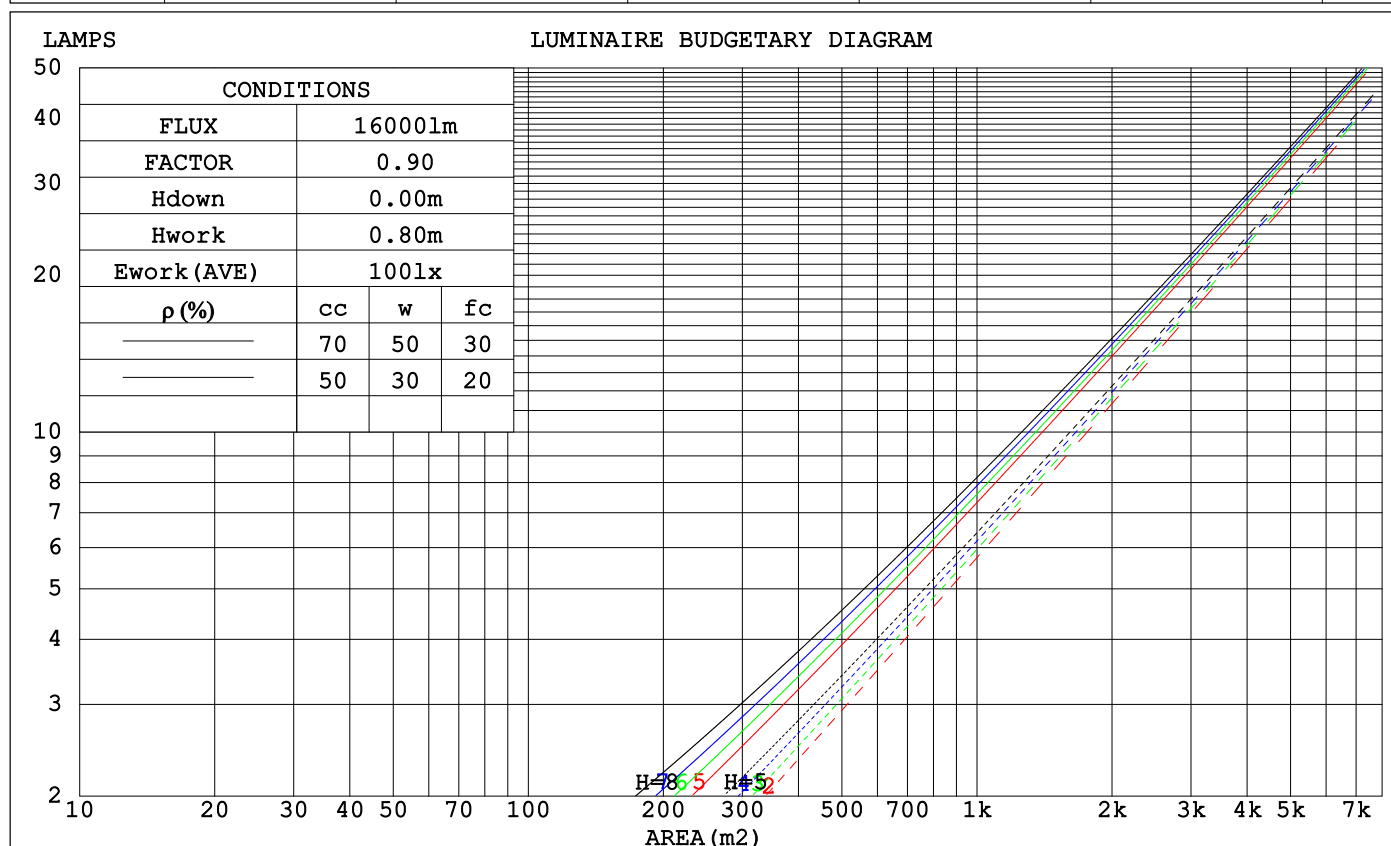
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.01	1.01	1.01	.99
1.0	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.99	.97	.98	.96	.94	.94	.92	.91	.89
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.85	.89	.86	.83	.86	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.82	.78	.74	.79	.76	.73	.71
4.0	.81	.74	.69	.80	.73	.68	.77	.72	.67	.75	.70	.66	.73	.69	.66	.64
5.0	.74	.67	.61	.73	.66	.61	.71	.65	.60	.69	.64	.60	.67	.63	.59	.57
6.0	.68	.61	.55	.67	.60	.55	.65	.59	.54	.64	.58	.54	.62	.57	.53	.52
7.0	.62	.55	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.57	.52	.49	.47
8.0	.58	.50	.45	.57	.50	.45	.56	.49	.45	.54	.49	.45	.53	.48	.44	.43
9.0	.53	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.44	.41	.39
10.0	.50	.43	.38	.49	.42	.38	.48	.42	.38	.47	.41	.37	.46	.41	.37	.36



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

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	.223	.127	.040	.216	.123	.039	.202	.116	.037	.190	.110	.035	.179	.104	.033	
2.0	.216	.118	.036	.210	.116	.036	.198	.110	.034	.188	.105	.033	.178	.100	.032	
3.0	.206	.110	.033	.201	.107	.032	.191	.103	.031	.181	.099	.030	.173	.096	.030	
4.0	.196	.102	.030	.191	.100	.030	.182	.097	.029	.174	.093	.028	.166	.090	.027	
5.0	.185	.095	.027	.181	.093	.027	.173	.090	.027	.166	.088	.026	.159	.085	.026	
6.0	.176	.088	.025	.172	.087	.025	.165	.085	.025	.159	.082	.024	.152	.080	.024	
7.0	.167	.083	.023	.164	.082	.023	.157	.080	.023	.151	.078	.023	.146	.076	.022	
8.0	.159	.077	.022	.156	.077	.022	.150	.075	.021	.145	.073	.021	.140	.072	.021	
9.0	.151	.073	.020	.148	.072	.020	.143	.071	.020	.138	.069	.020	.134	.068	.020	
10.0	.144	.069	.019	.141	.068	.019	.137	.067	.019	.132	.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	.199	.199	.199	.170	.170	.170	.116	.116	.116	.067	.067	.067	.021	.021	.021		
1.0	.182	.165	.149	.156	.142	.129	.107	.097	.089	.061	.056	.052	.020	.018	.017		
2.0	.170	.140	.115	.146	.121	.100	.100	.084	.070	.058	.049	.041	.018	.016	.013		
3.0	.160	.122	.092	.138	.105	.079	.094	.073	.056	.055	.043	.033	.018	.014	.011		
4.0	.152	.108	.075	.130	.093	.065	.090	.065	.046	.052	.038	.027	.017	.012	.009		
5.0	.144	.097	.062	.124	.084	.054	.085	.059	.038	.050	.034	.023	.016	.011	.007		
6.0	.138	.088	.053	.118	.077	.046	.082	.054	.033	.047	.032	.019	.015	.010	.006		
7.0	.132	.081	.046	.113	.070	.040	.078	.049	.028	.045	.029	.017	.015	.010	.006		
8.0	.126	.075	.041	.109	.065	.035	.075	.046	.025	.044	.027	.015	.014	.009	.005		
9.0	.121	.070	.036	.104	.061	.032	.072	.043	.022	.042	.025	.013	.014	.008	.004		
10.0	.116	.066	.033	.100	.058	.029	.069	.040	.020	.041	.024	.012	.013	.008	.004		

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	2H	20.3	21.6	20.7	21.9	22.3	20.4	21.6	20.8	22.0	22.3
	3H	21.0	22.1	21.4	22.4	22.8	21.0	22.1	21.4	22.4	22.8
	4H	21.2	22.2	21.6	22.6	23.0	21.1	22.2	21.6	22.5	22.9
	6H	21.3	22.2	21.7	22.6	23.0	21.2	22.2	21.7	22.6	23.0
	8H	21.3	22.2	21.8	22.6	23.1	21.3	22.2	21.7	22.6	23.0
	12H	21.4	22.2	21.8	22.6	23.1	21.3	22.1	21.7	22.5	23.0
4H	2H	20.5	21.5	20.9	21.9	22.3	20.5	21.6	20.9	21.9	22.3
	3H	21.3	22.1	21.7	22.5	23.0	21.2	22.1	21.7	22.5	22.9
	4H	21.6	22.3	22.0	22.7	23.2	21.5	22.2	21.9	22.7	23.1
	6H	21.8	22.4	22.3	22.9	23.4	21.7	22.3	22.2	22.8	23.3
	8H	21.8	22.4	22.3	22.9	23.4	21.7	22.3	22.2	22.8	23.3
	12H	21.9	22.4	22.4	22.9	23.4	21.8	22.3	22.3	22.8	23.3
8H	4H	21.6	22.2	22.1	22.6	23.1	21.5	22.1	22.0	22.6	23.1
	6H	21.9	22.4	22.4	22.9	23.4	21.8	22.3	22.3	22.8	23.3
	8H	22.0	22.4	22.5	23.0	23.5	21.9	22.3	22.4	22.9	23.4
	12H	22.1	22.5	22.6	23.0	23.6	22.0	22.4	22.5	22.9	23.5
12H	4H	21.6	22.1	22.1	22.6	23.1	21.5	22.0	22.0	22.5	23.0
	6H	21.9	22.3	22.4	22.8	23.4	21.8	22.2	22.3	22.7	23.3
	8H	22.0	22.4	22.5	22.9	23.5	21.9	22.3	22.4	22.8	23.4
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

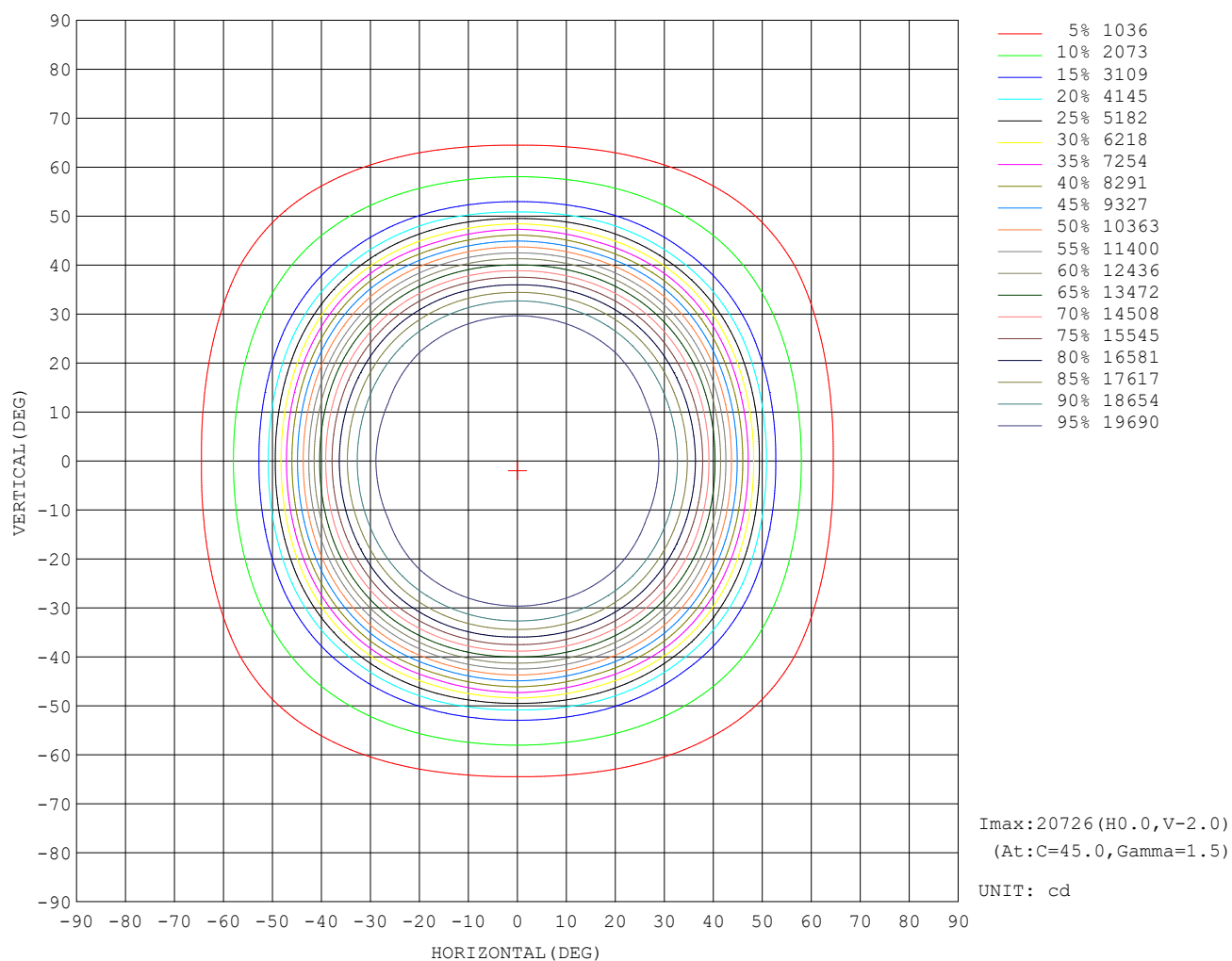
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	73	64	59	72	64	59	71	63	58	54
0.80	82	74	68	81	73	68	80	73	68	63
1.00	89	81	76	88	81	76	86	81	75	70
1.25	95	88	83	94	87	82	91	86	82	76
1.50	99	92	87	97	91	87	95	90	86	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	103	100	106	102	99	102	99	96	89
4.00	111	107	104	108	105	102	104	102	99	91
5.00	112	109	106	110	107	105	106	103	101	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHR NOM = 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:

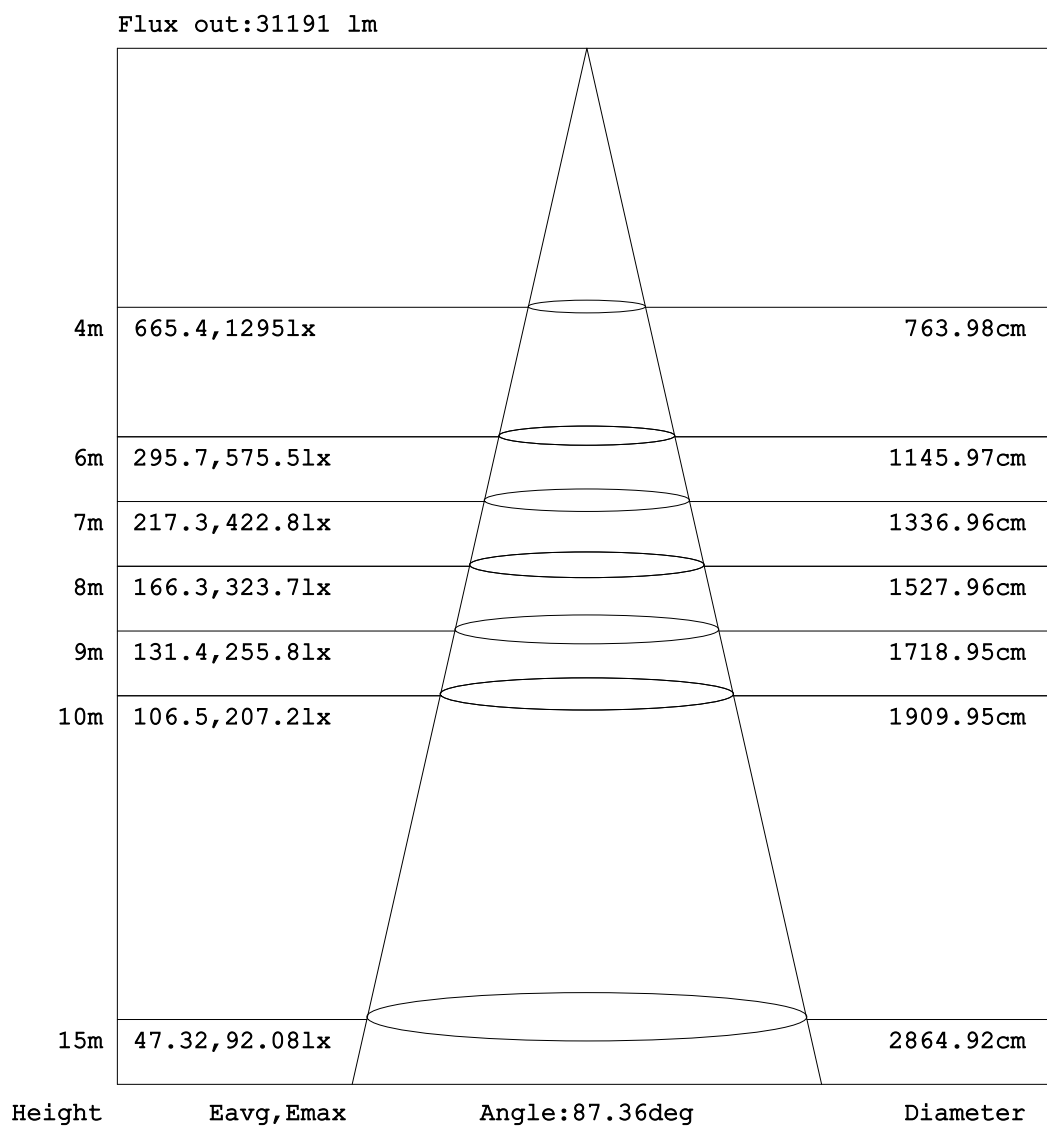
ISOCANDELA DIAGRAM



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



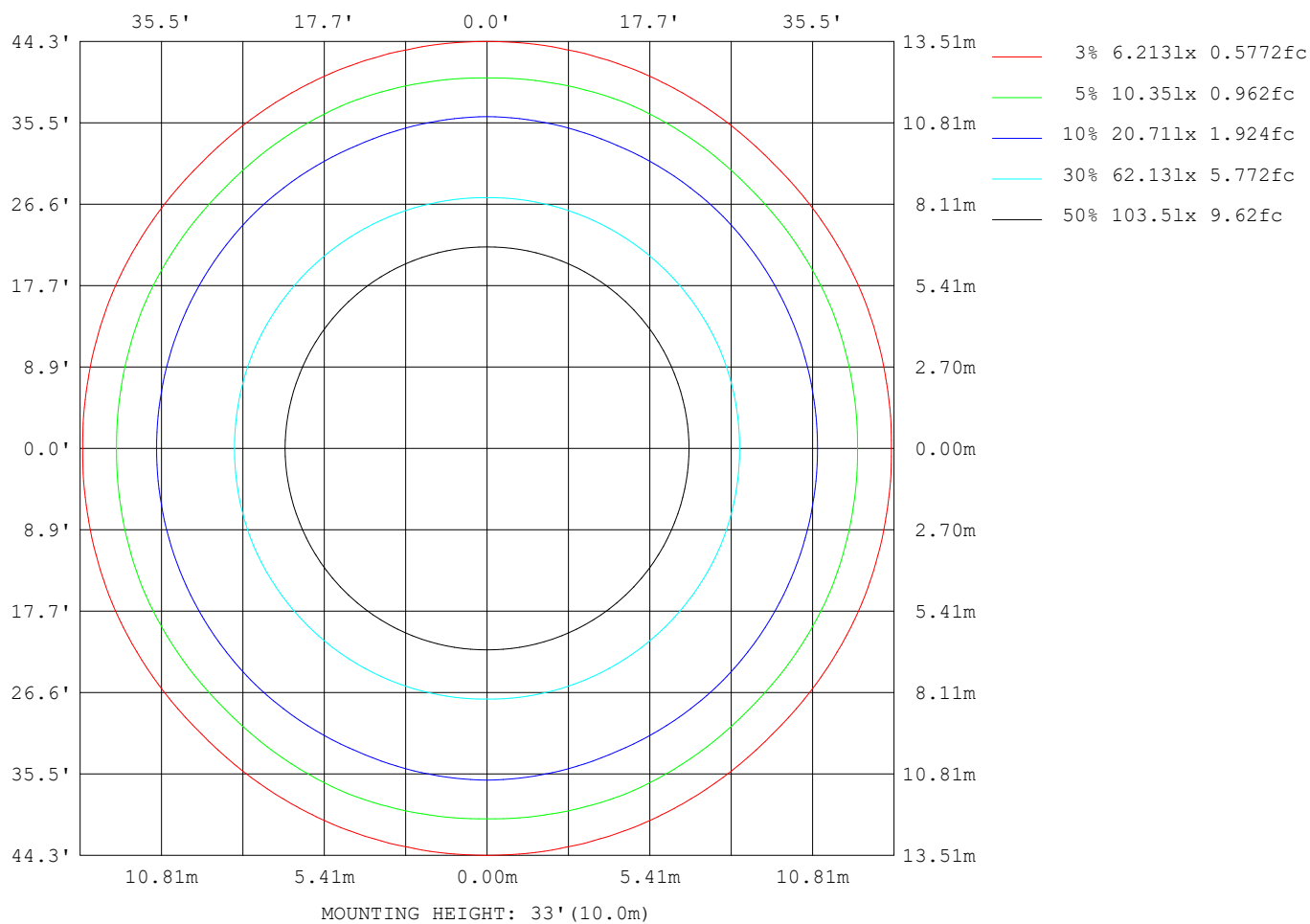
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

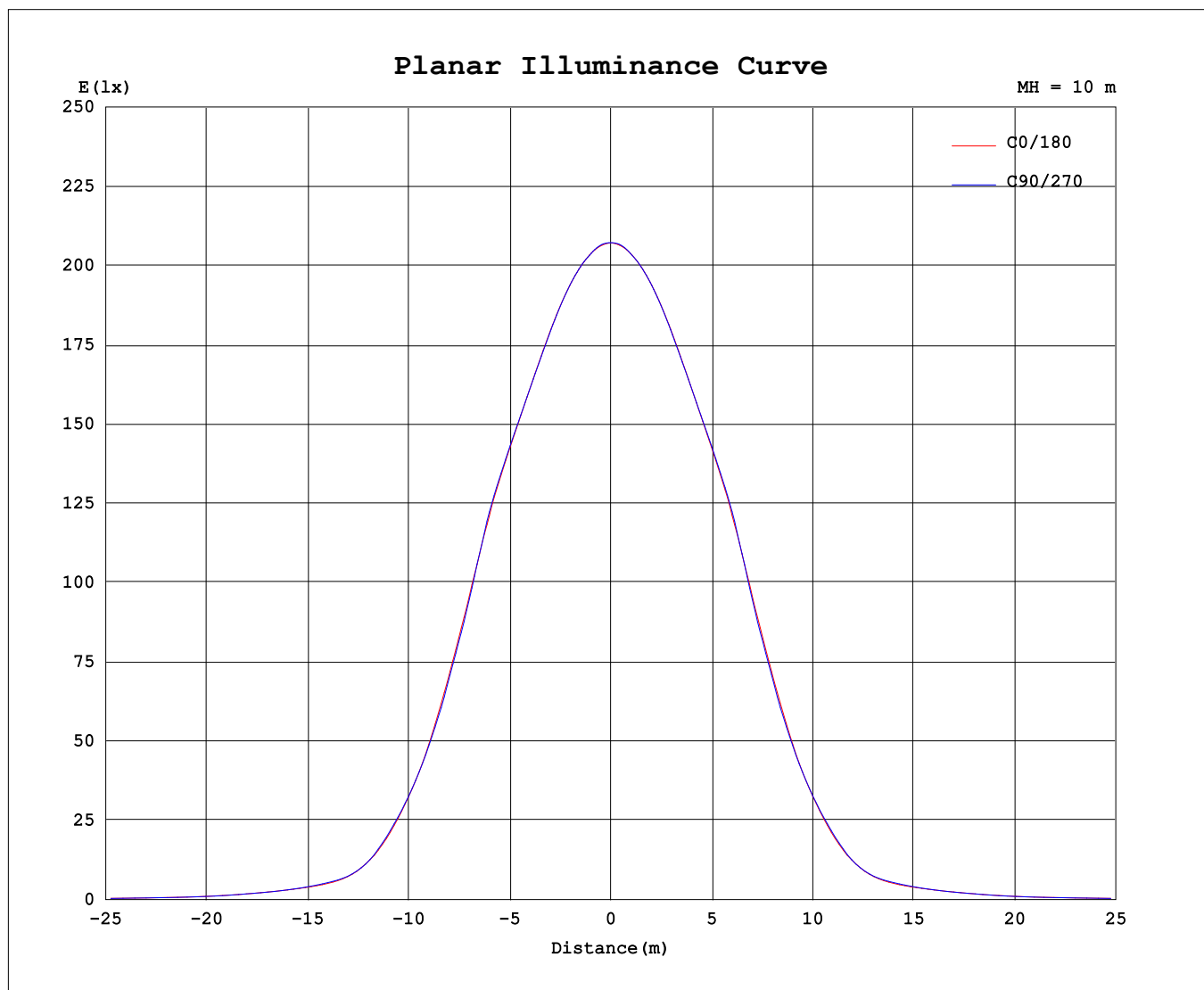
ISOLUX DIAGRAM



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: