

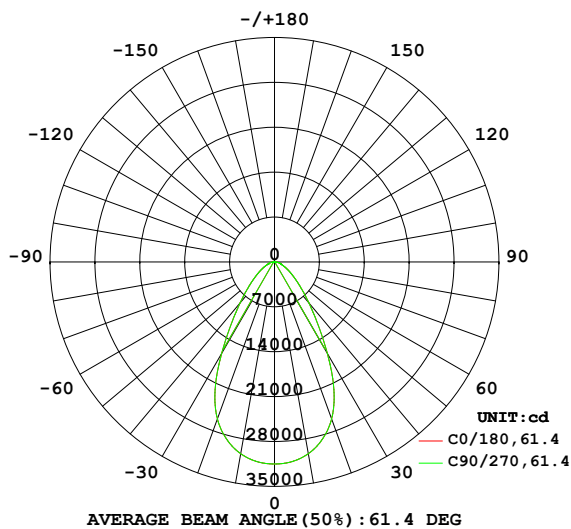
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

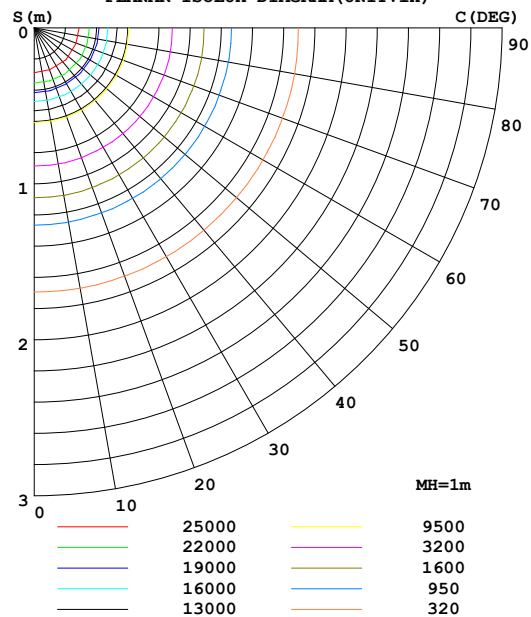
Test:U:230.0V I:0.880A P:200.0W PF:0.988 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:38843.8x1 lm		
NAME: HB74-200H-5080-H00221	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 194.22 lm/W			
MODEL	/	Imax (cd)	31504	S/MH (C0/180)	0.92
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.92
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	38844	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	38843.8	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	/	η down (%)	100.0	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4559]
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	3036	3036	3036	3036	3036	3036	3036	3036	0- 10	2955	2955	7.61,7.61
20	2605	2605	2605	2605	2605	2605	2605	2605	10- 20	8022	10977	28.3,28.3
30	1650	1650	1650	1650	1650	1650	1650	1650	20- 30	9897	20874	53.7,53.7
40	835.5	835.5	835.5	835.5	835.5	835.5	835.5	835.5	30- 40	7408	28282	72.8,72.8
50	437.0	437.0	437.0	437.0	437.0	437.0	437.0	437.0	40- 50	4704	32987	84.9,84.9
60	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	50- 60	2903	35890	92.4,92.4
70	113.9	113.9	113.9	113.9	113.9	113.9	113.9	113.9	60- 70	1665	37555	96.7,96.7
80	60.64	60.64	60.64	60.64	60.64	60.64	60.64	60.64	70- 80	977.4	38533	99.2,99.2
90	2.223	2.223	2.223	2.223	2.223	2.223	2.223	2.223	80- 90	311.1	38844	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:X10cd									UNIT:lm		

Conical surface Flux(90deg): 30913 lm

%lum = 79.6%

%lamp = 79.6%

Conical surface Flux(130deg): 36853 lm

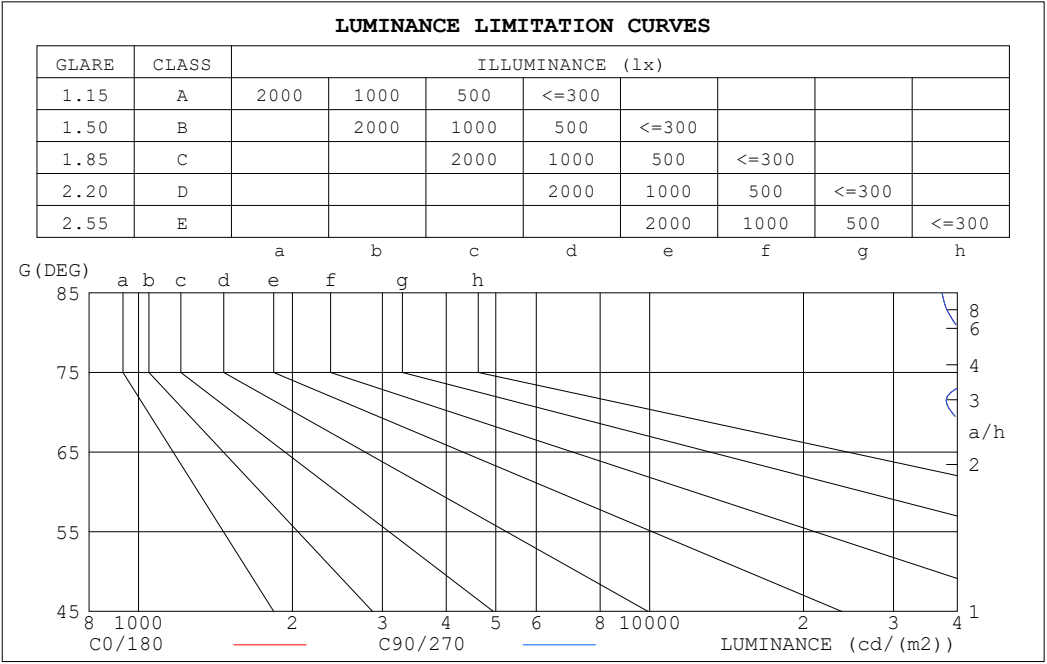
%lum = 94.9%

%lamp = 94.9%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4559]
Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	37327	37327
80	40890	40890
75	45548	45548
70	39001	39001
65	45993	45993
60	54809	54809
55	65466	65466
50	79614	79614
45	99637	99637

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:ZZX

Test Date:2023-09-27

γ Range: 0 - 90DEG

γ Interval: 0.5DEG

Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465

Humidity:65.0%

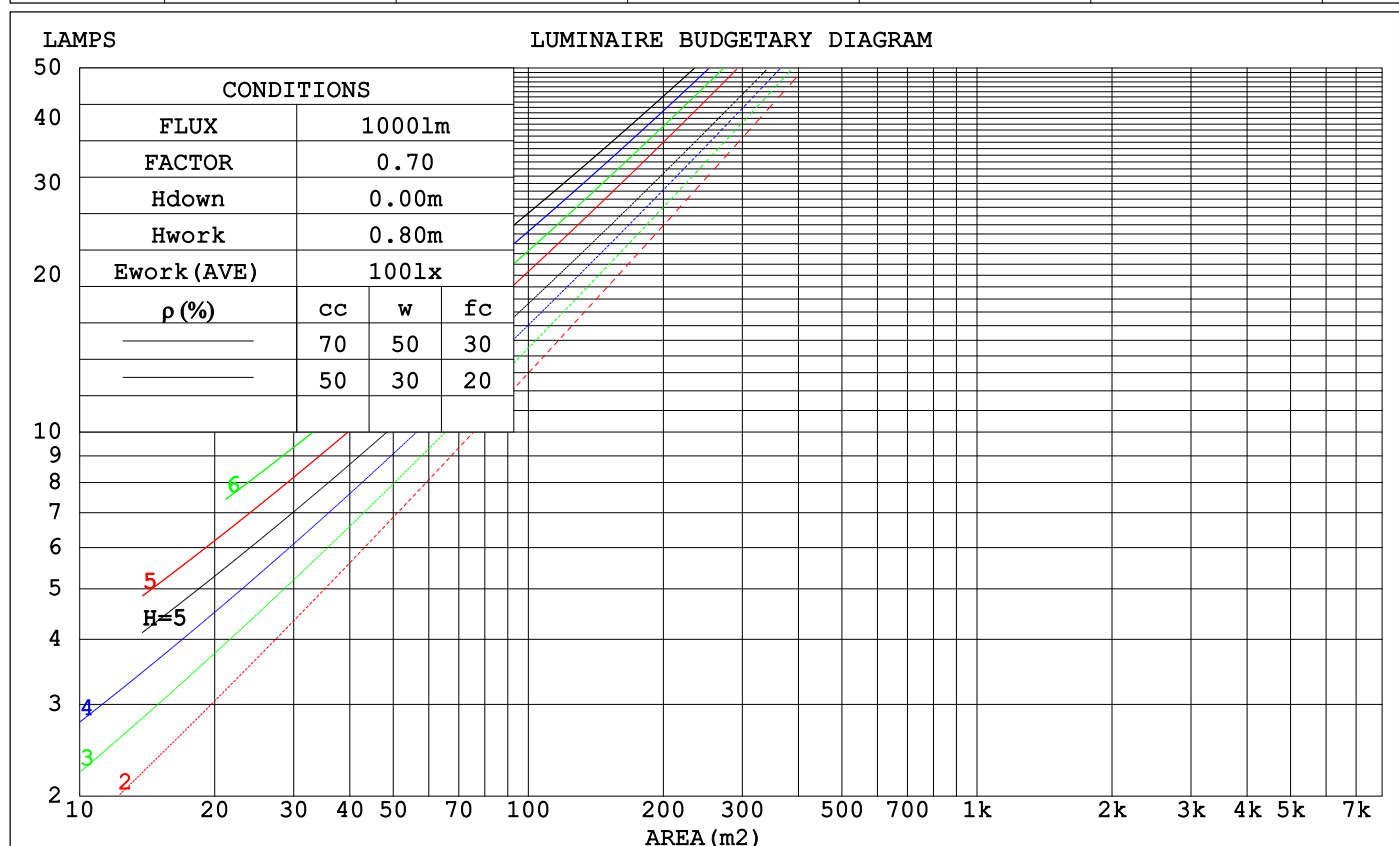
Test Distance:26.000m [K=0.4559]

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	1.00
1.0	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.95	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.85	.82	.80
3.0	.90	.83	.78	.88	.82	.78	.85	.81	.77	.83	.79	.75	.81	.77	.74	.72
4.0	.82	.75	.70	.81	.75	.70	.79	.73	.69	.77	.72	.68	.75	.71	.67	.65
5.0	.76	.69	.63	.75	.68	.63	.73	.67	.63	.71	.66	.62	.69	.65	.61	.60
6.0	.70	.63	.58	.69	.62	.58	.68	.62	.57	.66	.61	.57	.65	.60	.56	.55
7.0	.65	.58	.53	.64	.58	.53	.63	.57	.53	.62	.56	.52	.60	.56	.52	.50
8.0	.61	.54	.49	.60	.53	.49	.59	.53	.49	.58	.52	.48	.57	.52	.48	.47
9.0	.57	.50	.45	.56	.50	.45	.55	.49	.45	.54	.49	.45	.53	.48	.45	.43
10.0	.53	.47	.42	.53	.46	.42	.52	.46	.42	.51	.46	.42	.50	.45	.42	.40



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZZX
 Test Date:2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4559]
 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	.228	.130	.041	.221	.126	.040	.208	.120	.038	.197	.113	.036	.186	.108	.035	
2.0	.217	.119	.036	.211	.116	.036	.200	.111	.035	.190	.106	.033	.180	.102	.032	
3.0	.204	.109	.033	.199	.107	.032	.189	.103	.031	.180	.099	.030	.172	.095	.030	
4.0	.192	.100	.029	.187	.098	.029	.179	.095	.028	.171	.092	.028	.164	.089	.027	
5.0	.180	.092	.027	.176	.090	.026	.169	.088	.026	.162	.086	.025	.156	.083	.025	
6.0	.170	.085	.024	.166	.084	.024	.160	.082	.024	.154	.080	.023	.148	.078	.023	
7.0	.160	.079	.022	.157	.078	.022	.152	.077	.022	.146	.075	.022	.141	.073	.022	
8.0	.152	.074	.021	.149	.073	.021	.144	.072	.021	.139	.070	.020	.134	.069	.020	
9.0	.144	.070	.019	.142	.069	.019	.137	.068	.019	.133	.066	.019	.128	.065	.019	
10.0	.137	.066	.018	.135	.065	.018	.131	.064	.018	.127	.063	.018	.123	.062	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.175	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.084	.130	.098	.073	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.143	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.135	.089	.055	.116	.077	.048	.080	.054	.034	.046	.031	.020	.015	.010	.007	
6.0	.127	.080	.045	.109	.069	.040	.076	.048	.028	.044	.028	.017	.014	.009	.005	
7.0	.121	.072	.038	.104	.063	.034	.072	.044	.024	.042	.026	.014	.013	.008	.005	
8.0	.115	.066	.033	.099	.058	.029	.068	.040	.020	.040	.024	.012	.013	.008	.004	
9.0	.110	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.105	.057	.025	.090	.049	.022	.063	.035	.016	.036	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZZX
 Test Date:2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4559]
 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	23.9	25.1	24.2	25.5	25.8	23.9	25.1	24.2	25.5	25.8
	3H	24.9	26.1	25.3	26.4	26.8	24.9	26.1	25.3	26.4	26.8
	4H	25.5	26.6	25.9	26.9	27.3	25.5	26.6	25.9	26.9	27.3
	6H	26.1	27.0	26.5	27.4	27.8	26.1	27.0	26.5	27.4	27.8
	8H	26.2	27.1	26.6	27.5	27.9	26.2	27.1	26.6	27.5	27.9
	12H	26.3	27.2	26.8	27.6	28.0	26.3	27.2	26.8	27.6	28.0
4H	2H	24.2	25.3	24.6	25.6	26.0	24.2	25.3	24.6	25.6	26.0
	3H	25.5	26.3	25.9	26.7	27.1	25.5	26.3	25.9	26.7	27.1
	4H	26.3	27.1	26.7	27.5	27.9	26.3	27.1	26.7	27.5	27.9
	6H	27.0	27.6	27.4	28.1	28.6	27.0	27.6	27.4	28.1	28.6
	8H	27.2	27.8	27.6	28.2	28.7	27.2	27.8	27.6	28.2	28.7
	12H	27.3	27.9	27.8	28.4	28.8	27.3	27.9	27.8	28.4	28.8
8H	4H	26.6	27.2	27.0	27.6	28.1	26.6	27.2	27.0	27.6	28.1
	6H	27.4	27.9	27.9	28.4	28.9	27.4	27.9	27.9	28.4	28.9
	8H	27.7	28.1	28.2	28.6	29.1	27.7	28.1	28.2	28.6	29.1
	12H	27.9	28.3	28.4	28.8	29.4	27.9	28.3	28.4	28.8	29.4
12H	4H	26.6	27.1	27.1	27.6	28.1	26.6	27.1	27.1	27.6	28.1
	6H	27.4	27.9	28.0	28.3	28.9	27.4	27.9	28.0	28.3	28.9
	8H	27.8	28.2	28.3	28.7	29.2	27.8	28.2	28.3	28.7	29.2
CIE190: 2010											

CIE190: 2010
Area: 0.0854 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4559]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

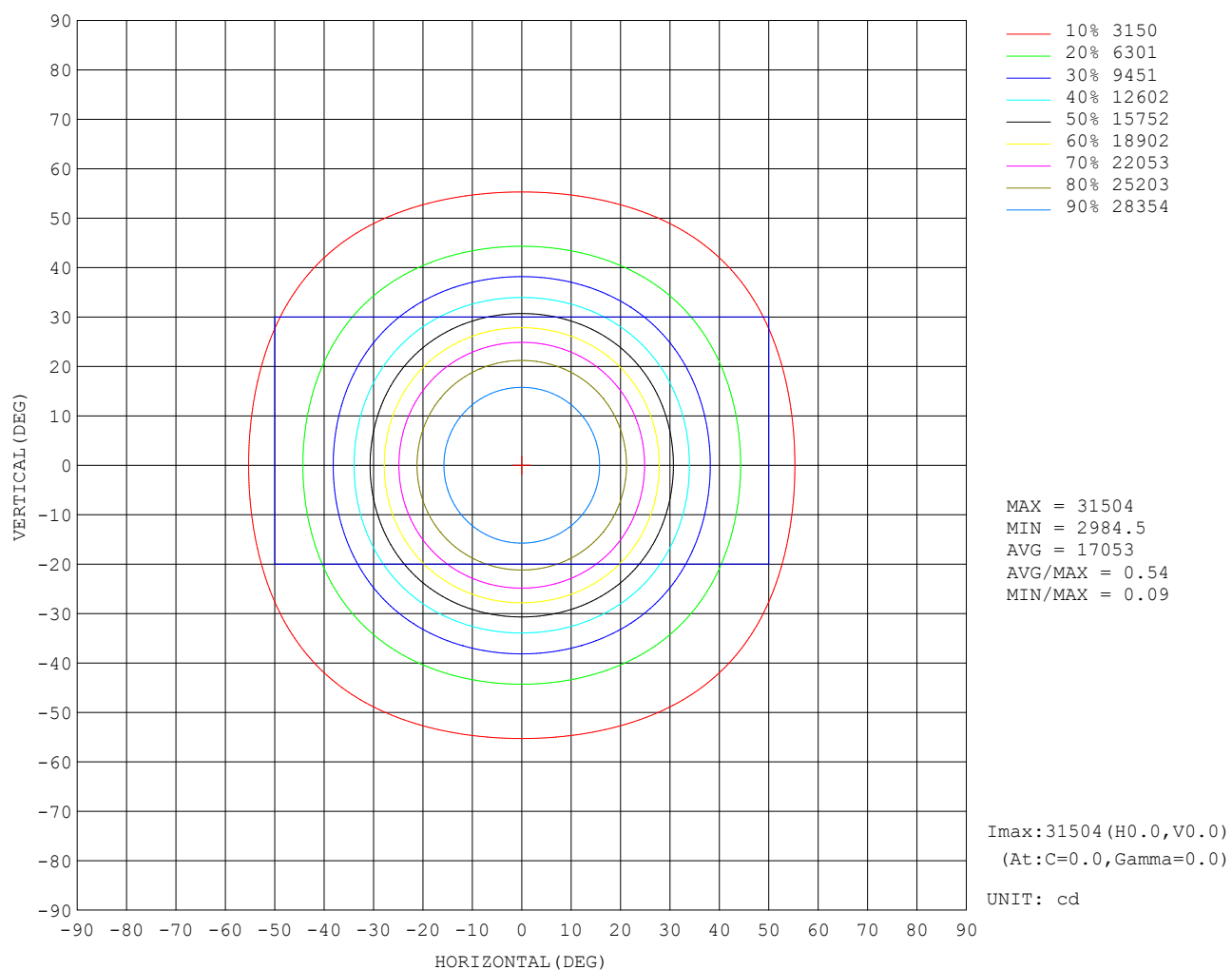
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	75	66	61	74	66	61	73	65	61	56
0.80	83	75	70	83	75	70	81	74	69	64
1.00	90	82	77	89	81	77	87	82	76	71
1.25	95	88	83	94	87	83	92	86	82	76
1.50	99	92	87	97	91	87	95	90	86	80
2.00	103	97	93	102	96	92	99	94	91	84
2.50	106	100	96	104	99	95	101	97	93	87
3.00	108	103	99	106	102	98	102	99	96	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: 2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4559]
 Remarks:

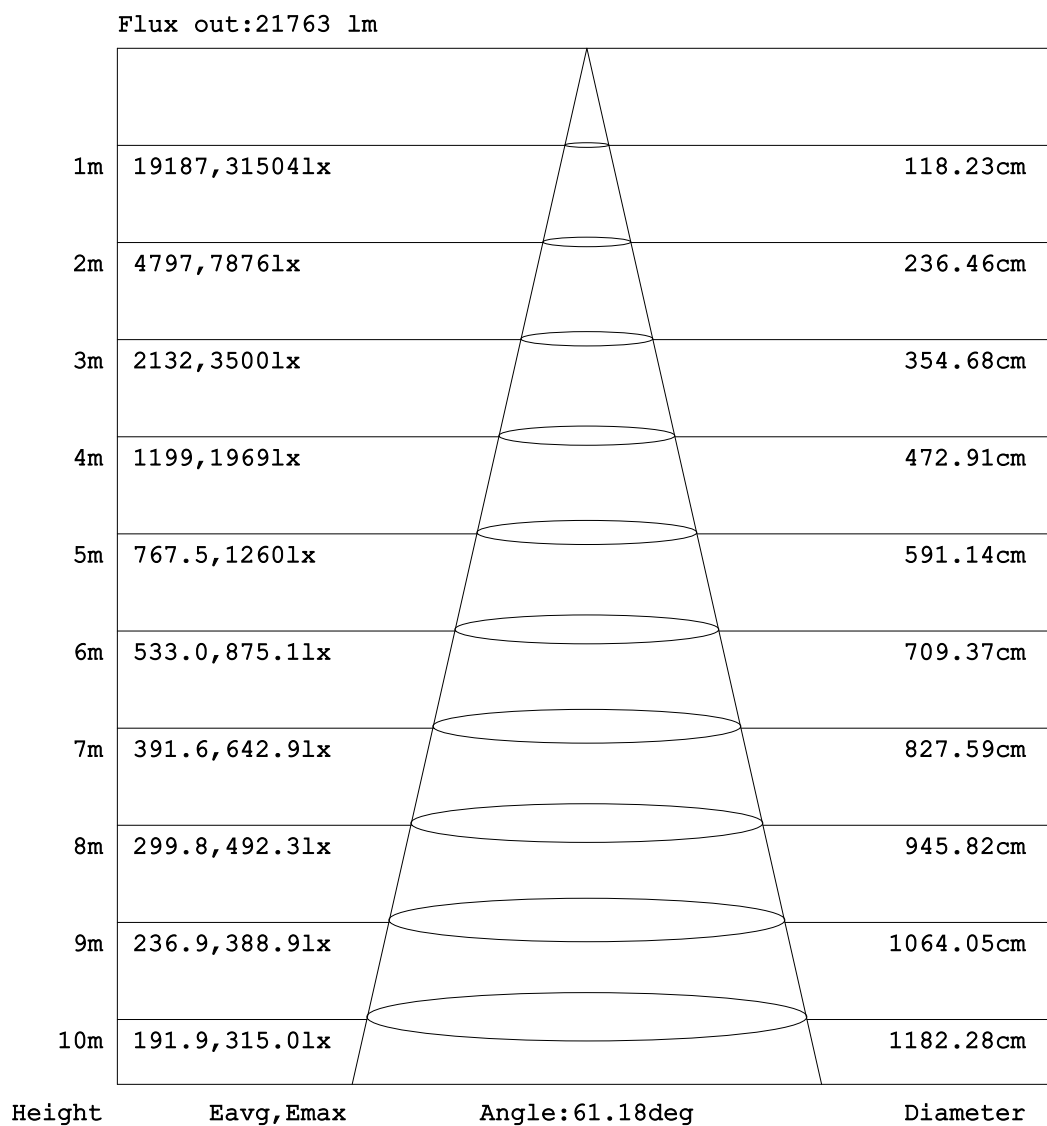
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4559]
Remarks:

AAI Figure



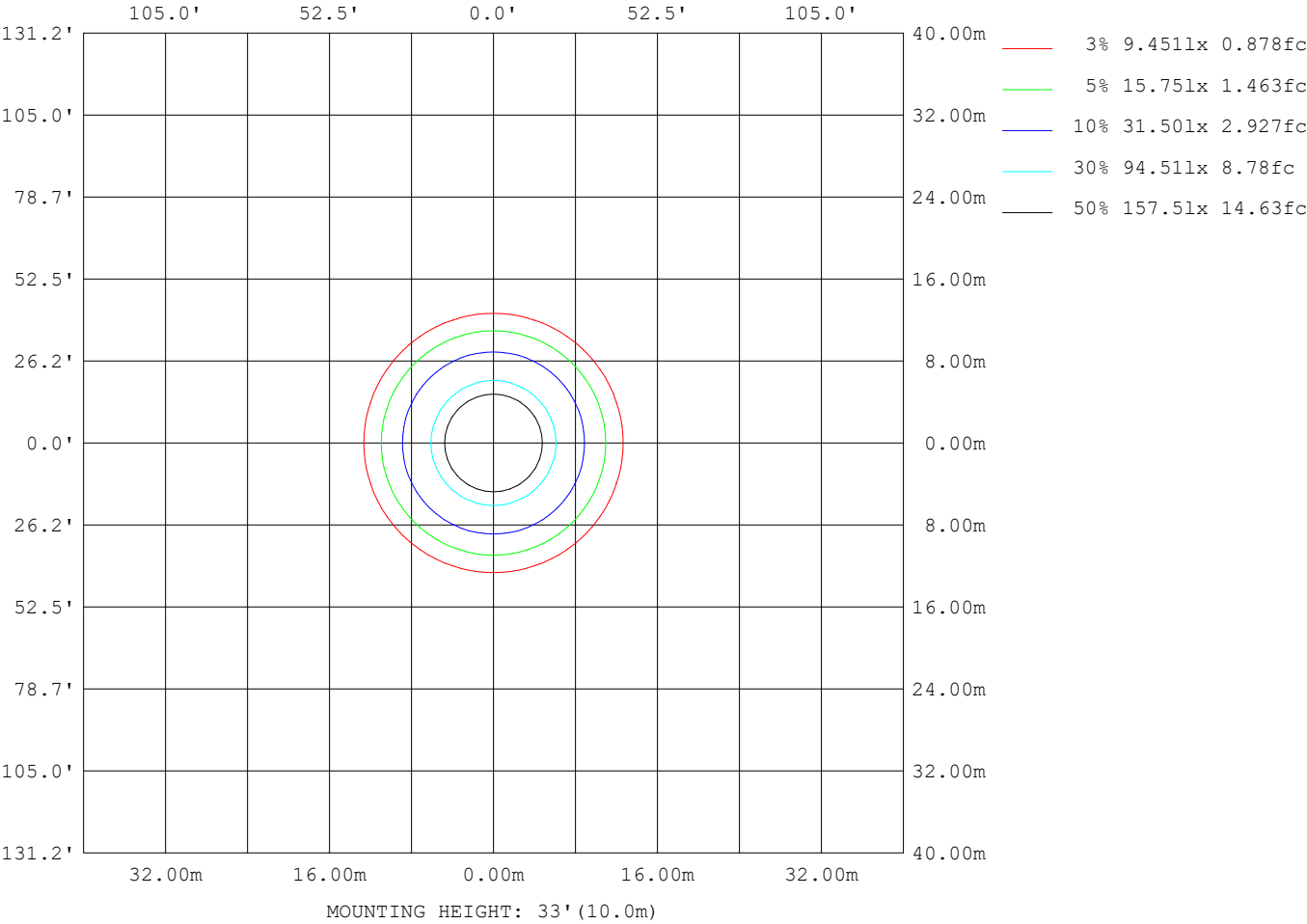
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4559]
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:2023-09-27

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4559]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LED Avg.L Report

Test:U:230.0V I:0.880A P:200.0W PF:0.988 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:38843.8x1 lm		
NAME: HB74-200H-5080-H00221	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

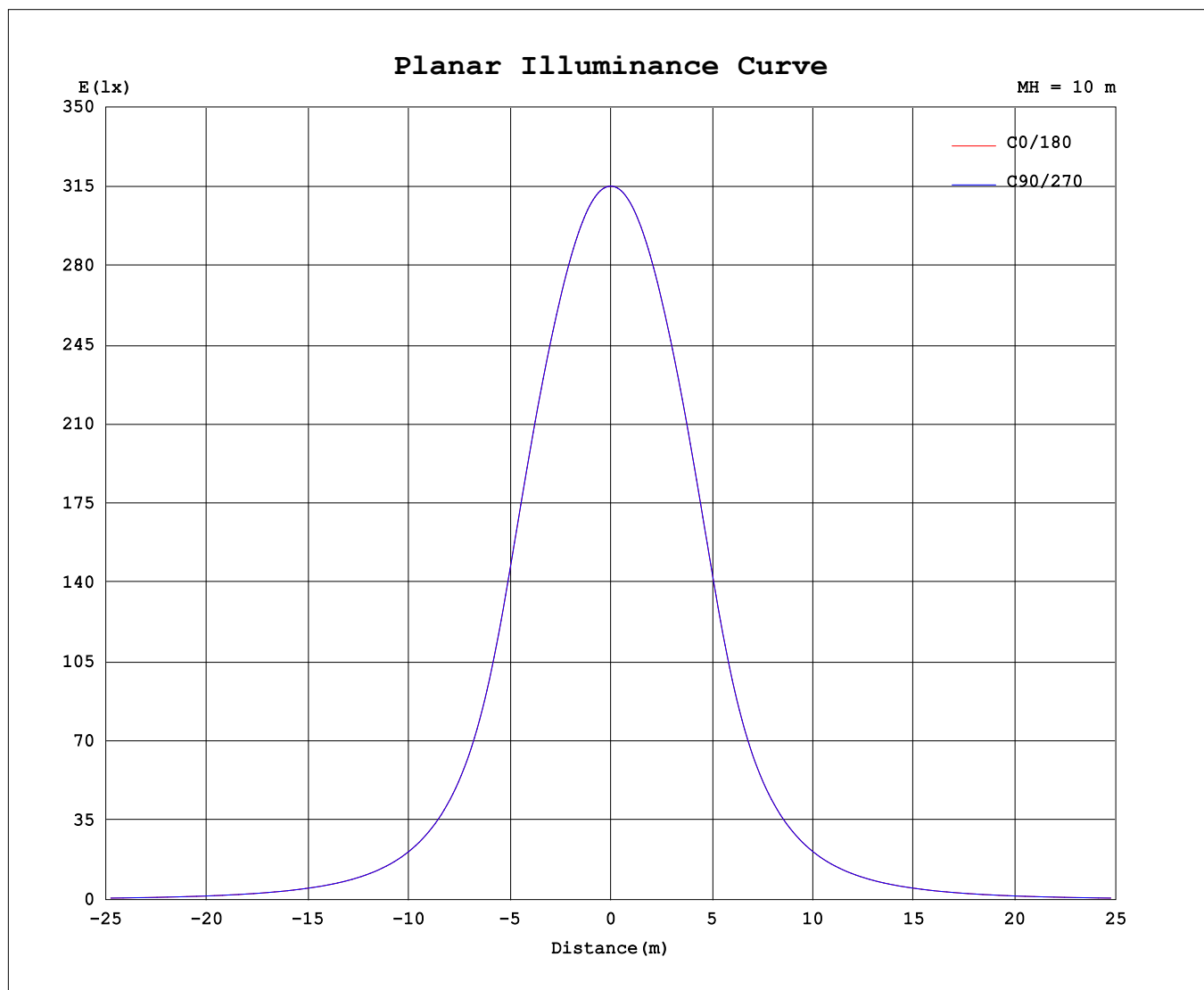
AvgL	cd/m2
L_0~180 (65) av	45993
L_0~180 (75) av	45548
L_0~180 (85) av	37327
L_90~270 (65) av	45993
L_90~270 (75) av	45548
L_90~270 (85) av	37327
L_45 (65) av	45993
L_45 (75) av	45548
L_45 (85) av	37327

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-09-27

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4559]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-09-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4559]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

UNIT: X10cd

[illegible]

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-09-27

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4559]
Remarks:

```