

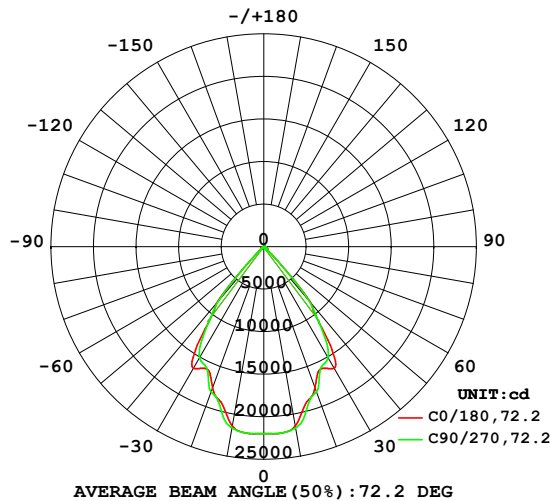
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

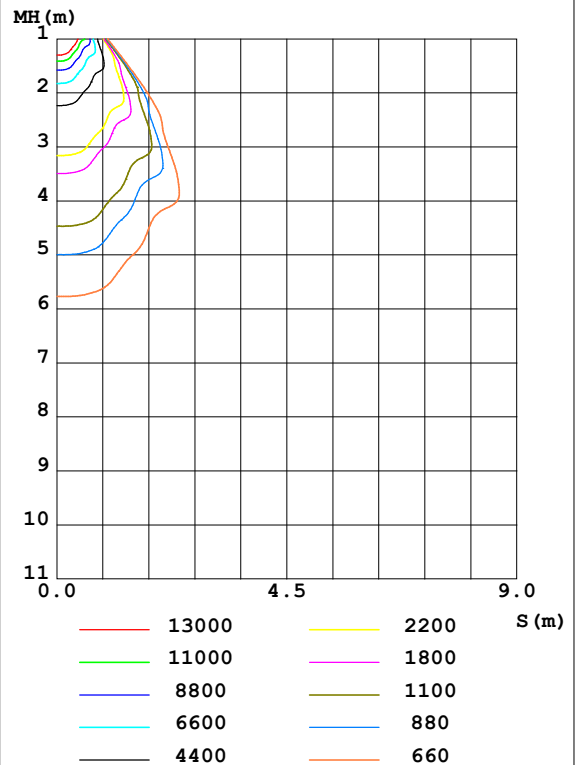
Test:U:230.0V I:0.8767A P:201.10W PF:0.9973 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:24317.3x1 lm		
NAME: LHB09-200-5070-L03902+GRID28	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 120.92 lm/W			
MODEL	/	I _{max} (cd)	22059	S/MH(C0/180)	1.05
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.02
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	24317	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	24317.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.05

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
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	2141	2185	2162	2185	2141	2185	2162	2185	0- 10	2094	2094	8.61,8.61
20	1764	1765	1815	1765	1764	1765	1815	1765	10- 20	5589	7683	31.6,31.6
30	1651	1315	1510	1315	1651	1315	1510	1315	20- 30	7391	15075	62,62
40	843.1	547.9	807.9	547.9	843.1	547.9	807.9	547.9	30- 40	7023	22097	90.9,90.9
50	53.77	47.67	42.91	47.67	53.77	47.67	42.91	47.67	40- 50	1766	23863	98.1,98.1
60	31.13	18.93	17.75	18.93	31.13	18.93	17.75	18.93	50- 60	277.1	24140	99.3,99.3
70	16.20	6.251	4.995	6.251	16.20	6.251	4.995	6.251	60- 70	130.0	24270	99.8,99.8
80	2.505	1.485	1.241	1.485	2.505	1.485	1.241	1.485	70- 80	39.96	24310	100,100
90	0.0433	0.0479	0.0338	0.0479	0.0433	0.0479	0.0338	0.0479	80- 90	7.329	24317	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): 23557 lm

%lum = 96.9%

%lamp = 96.9%

Conical surface Flux(120deg): 24140 lm

%lum = 99.3%

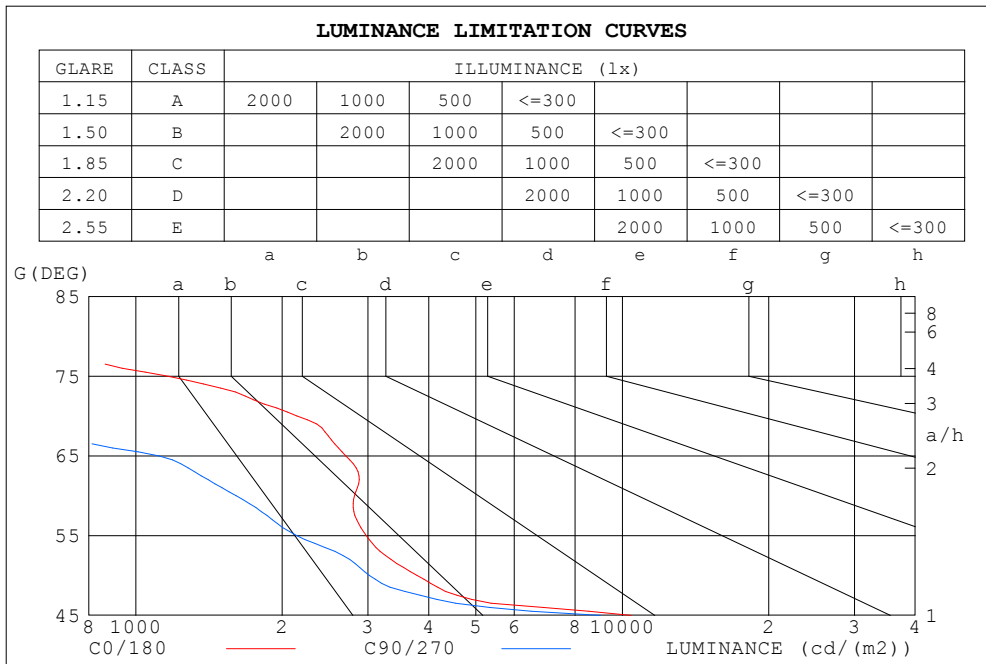
%lamp = 99.3%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-10-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
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LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	514	259
80	653	323
75	1165	449
70	2143	661
65	2702	1118
60	2817	1606
55	2976	2142
50	3785	3020
45	10419	9017

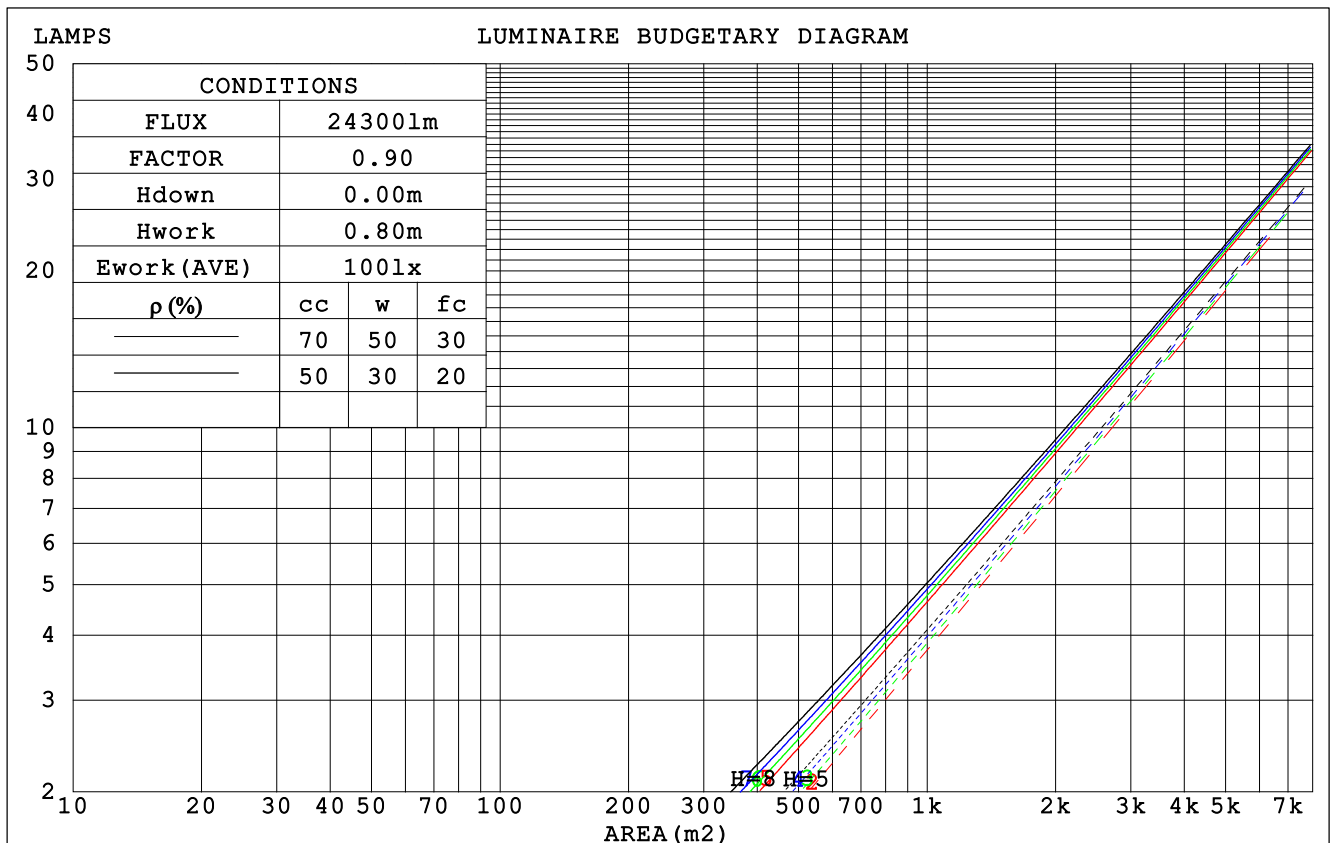
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 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-10-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity: 65.0%
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 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{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	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.95	.93
2.0	1.02	.98	.94	1.00	.97	.93	.97	.94	.91	.94	.92	.89	.91	.89	.87	.86
3.0	.95	.89	.85	.93	.88	.85	.91	.87	.83	.88	.85	.82	.86	.83	.81	.79
4.0	.88	.82	.78	.87	.81	.77	.85	.80	.76	.83	.79	.75	.81	.77	.74	.73
5.0	.82	.76	.71	.81	.75	.71	.79	.74	.70	.77	.73	.70	.76	.72	.69	.67
6.0	.76	.70	.65	.75	.70	.65	.74	.69	.65	.72	.68	.64	.71	.67	.64	.62
7.0	.71	.65	.60	.71	.65	.60	.69	.64	.60	.68	.63	.60	.67	.63	.59	.58
8.0	.67	.60	.56	.66	.60	.56	.65	.60	.56	.64	.59	.55	.63	.59	.55	.54
9.0	.63	.56	.52	.62	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.51	.50
10.0	.59	.53	.49	.58	.53	.49	.58	.52	.48	.57	.52	.48	.56	.51	.48	.47



C Range: 0 - 360DEG
 C Interval: 10.0DEG
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 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-10-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4538]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.186	.106	.034	.179	.102	.032	.167	.096	.031	.155	.089	.029	.144	.084	.027		
2.0	.180	.098	.030	.174	.096	.029	.163	.091	.028	.153	.086	.027	.144	.082	.026		
3.0	.172	.091	.027	.167	.089	.027	.158	.086	.026	.149	.082	.025	.141	.078	.024		
4.0	.164	.085	.025	.160	.084	.025	.152	.081	.024	.145	.078	.023	.138	.075	.023		
5.0	.157	.080	.023	.153	.079	.023	.146	.076	.022	.140	.074	.022	.134	.071	.021		
6.0	.150	.075	.022	.147	.074	.021	.140	.072	.021	.135	.070	.021	.129	.068	.020		
7.0	.143	.071	.020	.140	.070	.020	.135	.068	.020	.130	.067	.019	.125	.065	.019		
8.0	.137	.067	.019	.135	.066	.019	.130	.065	.019	.125	.063	.018	.121	.062	.018		
9.0	.131	.064	.018	.129	.063	.018	.125	.062	.017	.121	.060	.017	.117	.059	.017		
10.0	.126	.060	.017	.124	.060	.017	.120	.059	.017	.116	.058	.016	.113	.057	.016		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	.172	.157	.144	.147	.135	.124	.101	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.135	.114	.096	.092	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.146	.114	.088	.125	.098	.076	.086	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.136	.099	.071	.117	.086	.062	.080	.060	.043	.046	.035	.026	.015	.011	.008	
5.0	.128	.088	.058	.110	.076	.051	.076	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.121	.079	.048	.104	.068	.042	.072	.048	.030	.042	.028	.018	.013	.009	.006	
7.0	.114	.071	.041	.098	.062	.036	.068	.043	.025	.040	.025	.015	.013	.008	.005	
8.0	.109	.065	.035	.094	.056	.030	.065	.040	.022	.038	.023	.013	.012	.008	.004	
9.0	.104	.060	.030	.090	.052	.026	.062	.037	.019	.036	.022	.011	.012	.007	.004	
10.0	.099	.056	.026	.086	.048	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2021-10-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:26.000m [K=0.4538]
 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	6.4	7.4	6.8	7.7	8.0	4.3	5.3	4.7	5.6	5.9
3H	7.7	8.6	8.1	8.9	9.3	4.5	5.4	4.9	5.7	6.1
4H	7.9	8.7	8.3	9.1	9.5	4.6	5.4	5.0	5.7	6.1
6H	7.9	8.6	8.3	9.0	9.4	4.5	5.3	5.0	5.7	6.1
8H	7.9	8.6	8.3	9.0	9.4	4.5	5.2	5.0	5.6	6.0
12H	7.8	8.5	8.3	8.9	9.3	4.5	5.1	4.9	5.5	6.0
4H 2H	6.4	7.2	6.8	7.5	7.9	4.5	5.3	4.9	5.6	6.0
3H	7.7	8.4	8.1	8.8	9.2	4.8	5.4	5.2	5.8	6.2
4H	7.9	8.5	8.4	9.0	9.4	4.8	5.4	5.3	5.8	6.3
6H	8.0	8.5	8.5	8.9	9.4	4.8	5.3	5.3	5.8	6.3
8H	8.0	8.4	8.4	8.9	9.4	4.8	5.3	5.3	5.7	6.2
12H	7.9	8.3	8.4	8.8	9.3	4.8	5.2	5.3	5.7	6.1
8H 4H	7.8	8.3	8.3	8.7	9.2	4.8	5.3	5.3	5.7	6.2
6H	7.9	8.2	8.4	8.7	9.2	4.8	5.2	5.3	5.7	6.2
8H	7.9	8.2	8.4	8.7	9.2	4.8	5.1	5.3	5.7	6.2
12H	7.9	8.1	8.4	8.6	9.2	4.8	5.1	5.3	5.6	6.2
12H 4H	7.8	8.2	8.2	8.6	9.1	4.8	5.2	5.3	5.7	6.1
6H	7.8	8.1	8.3	8.6	9.2	4.8	5.1	5.3	5.6	6.1
8H	7.8	8.1	8.3	8.6	9.2	4.8	5.1	5.3	5.6	6.2
CIE190: 2010										

CIE190: 2010
Area: 0.221 m2

C Range: 0 - 360DEG
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Operators:LYJ
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γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4538]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

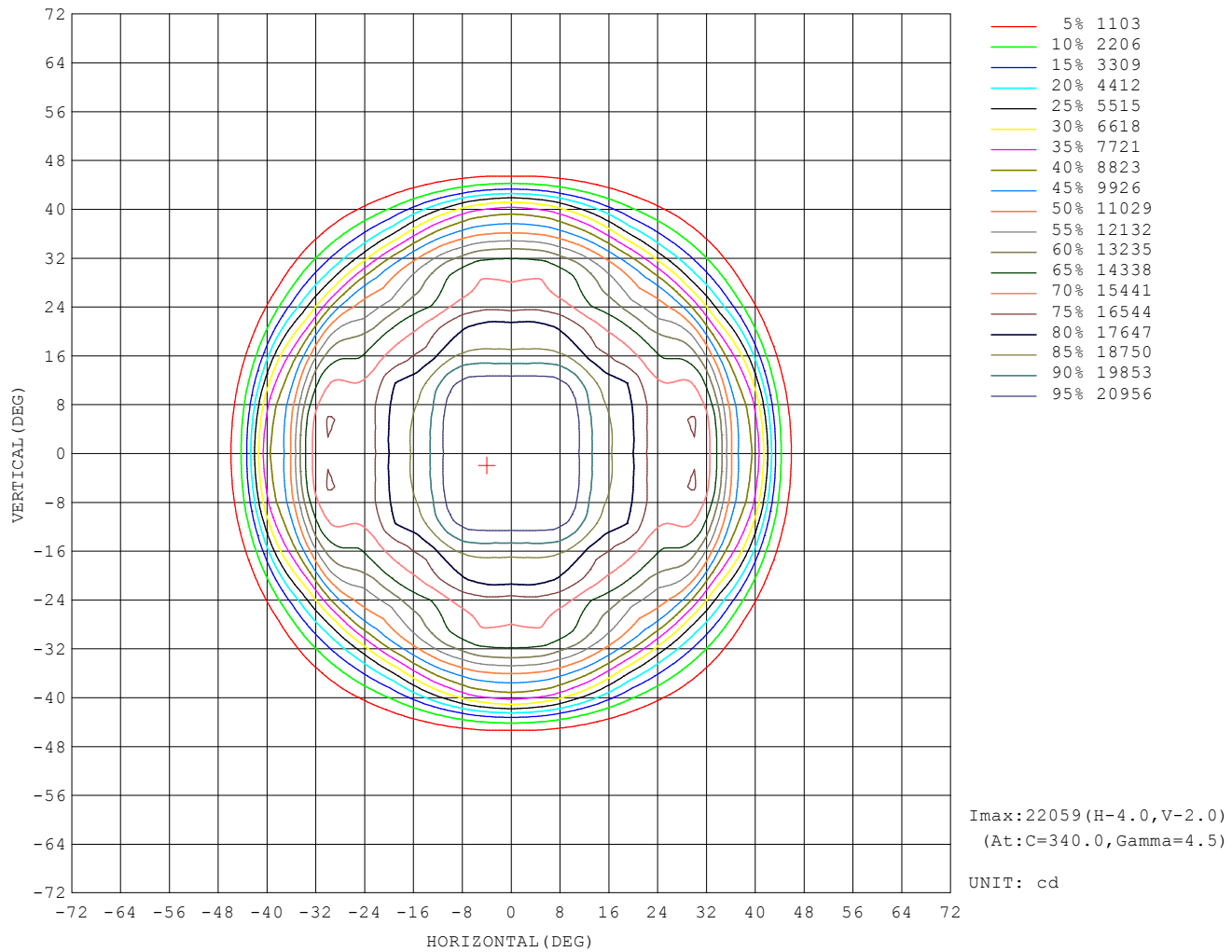
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	79	75	85	79	75	85	79	75	71
0.80	94	87	84	93	87	83	92	86	83	79
1.00	98	93	89	98	92	89	96	92	88	84
1.25	103	97	94	101	97	93	100	95	92	88
1.50	105	100	97	104	100	97	102	98	95	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	108	112	109	107	108	106	104	97
5.00	115	112	111	113	111	109	109	107	106	98
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 Test Date: 2021-10-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4538]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

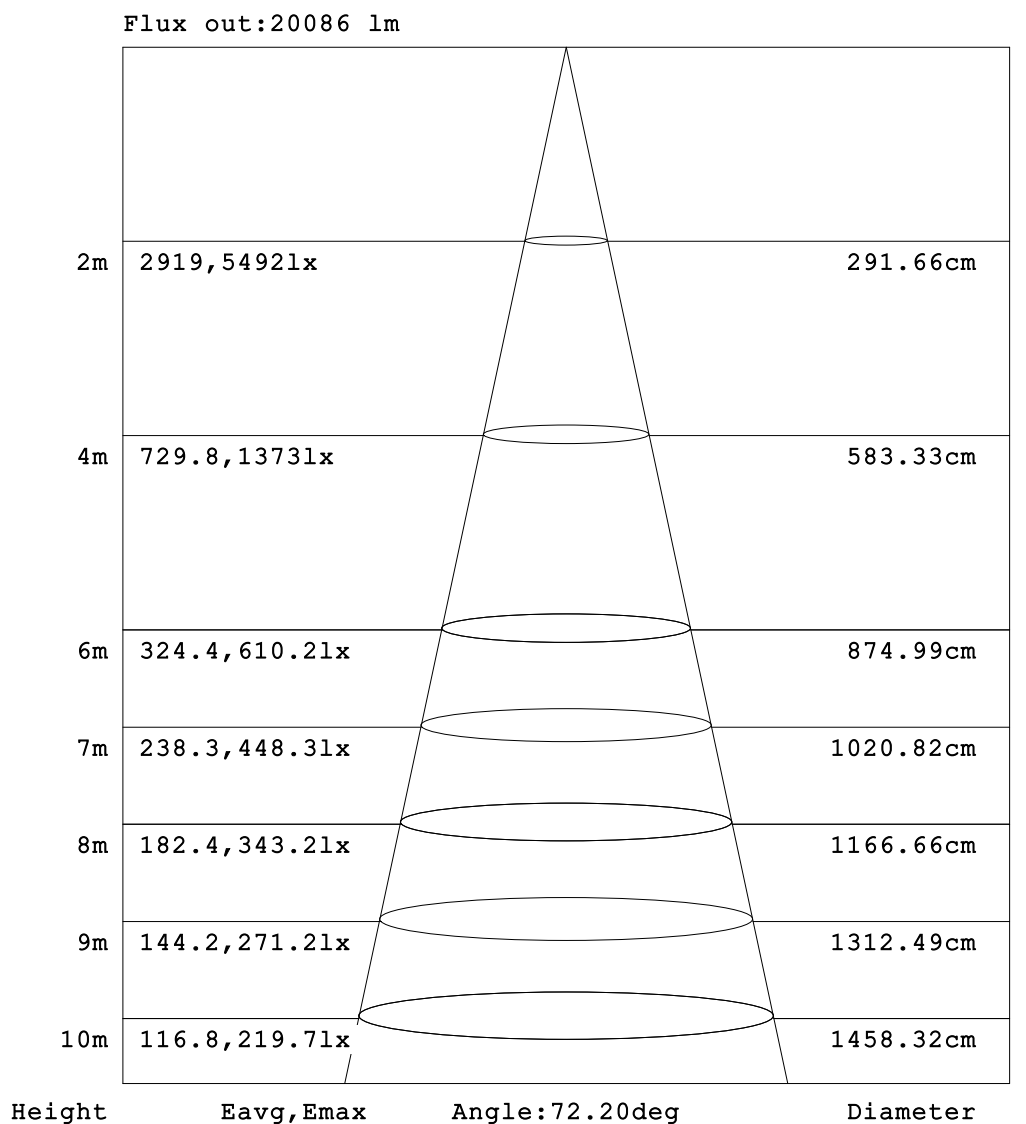
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
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Test Date:2021-10-11

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Remarks:

AAI Figure



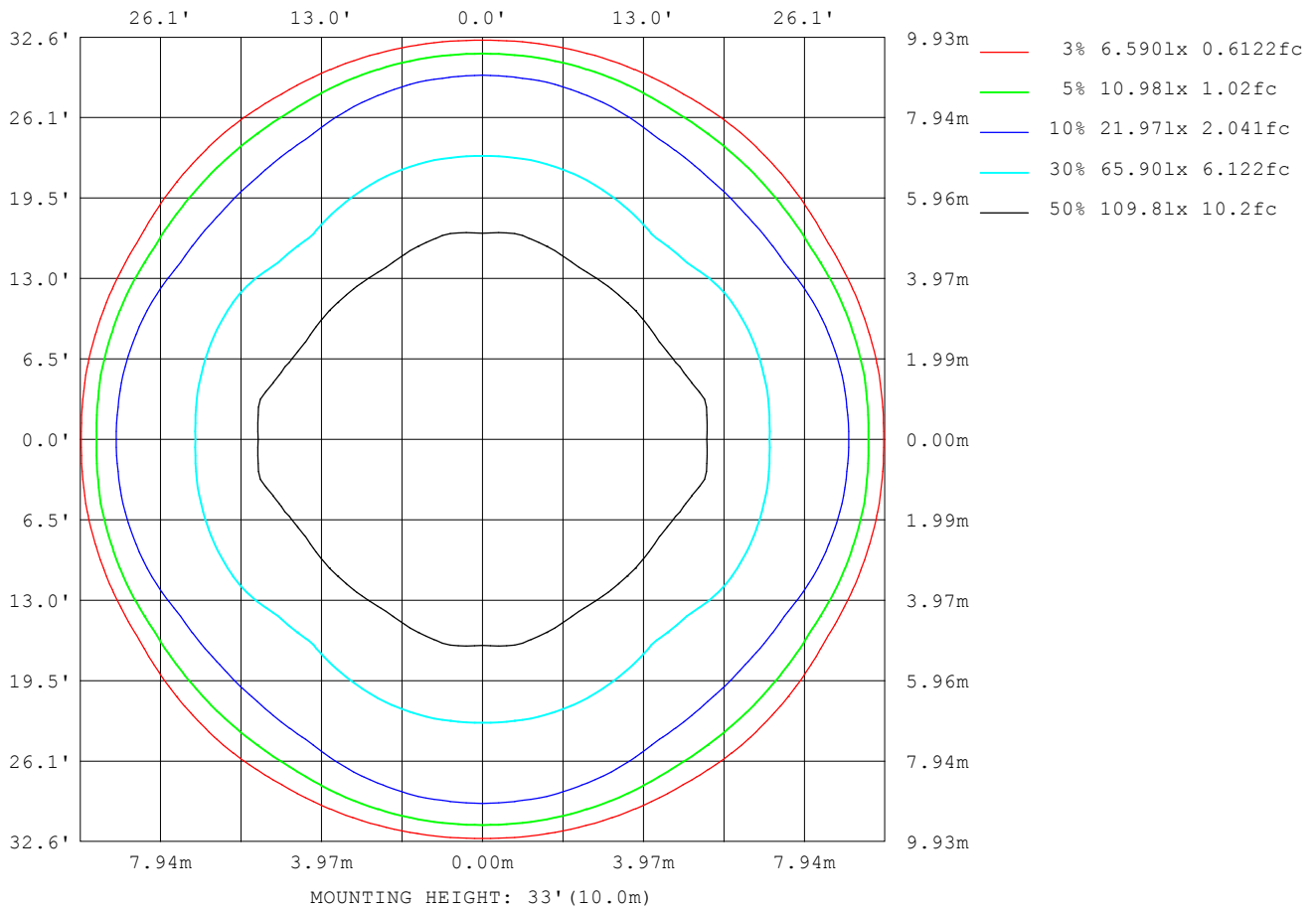
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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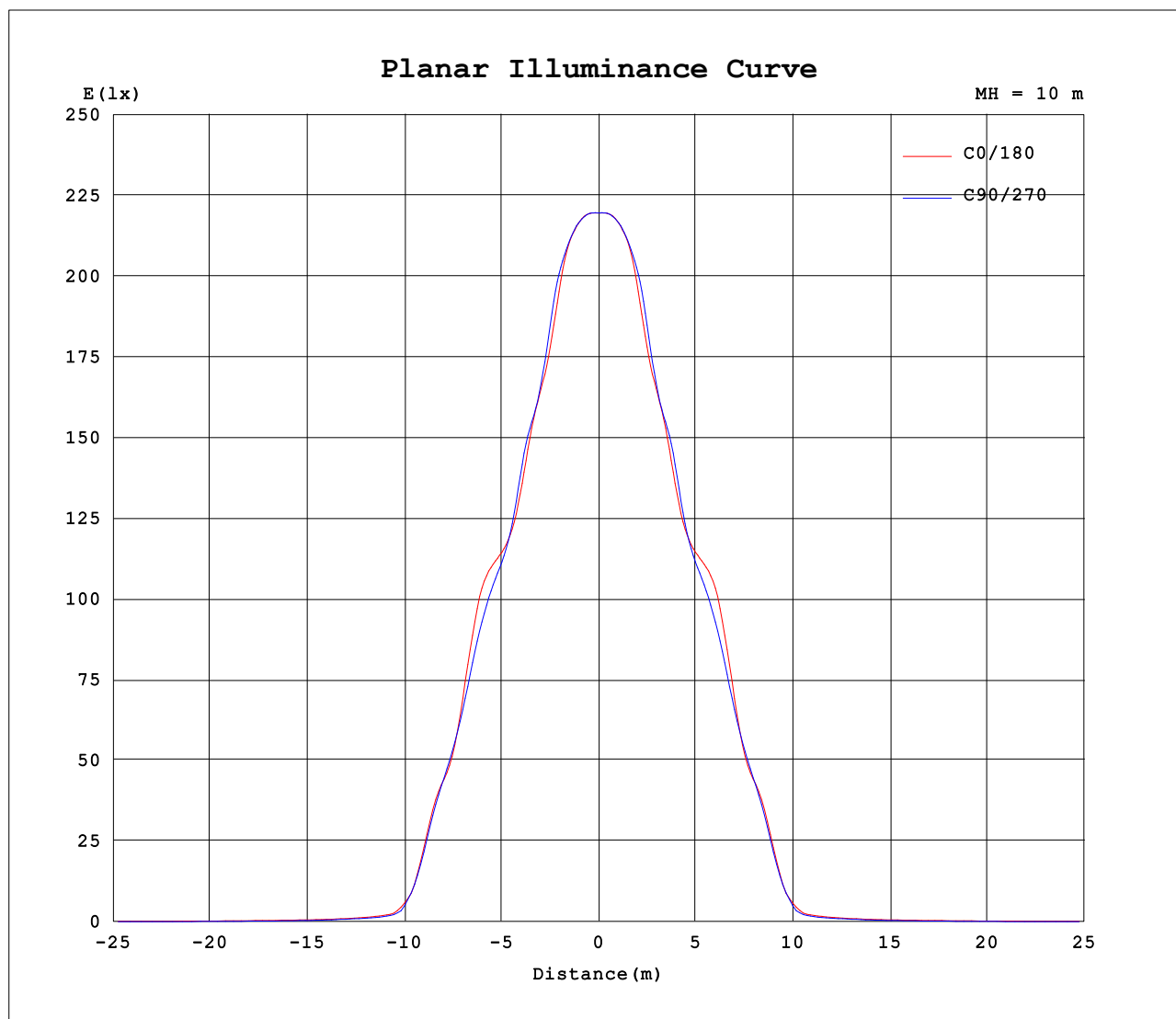
ISOLUX DIAGRAM



C Range: 0 - 360DEG
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Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-10-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
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Humidity: 65.0%
Test Distance: 26.000m [K=0.4538]
Remarks:

Planar Illuminance Curve



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Temperature: 25.3DEG
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Test Date: 2021-10-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 26.000m [K=0.4538]
Remarks: