

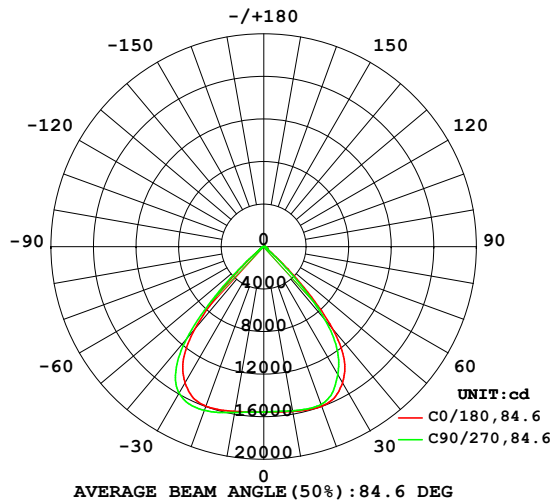
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

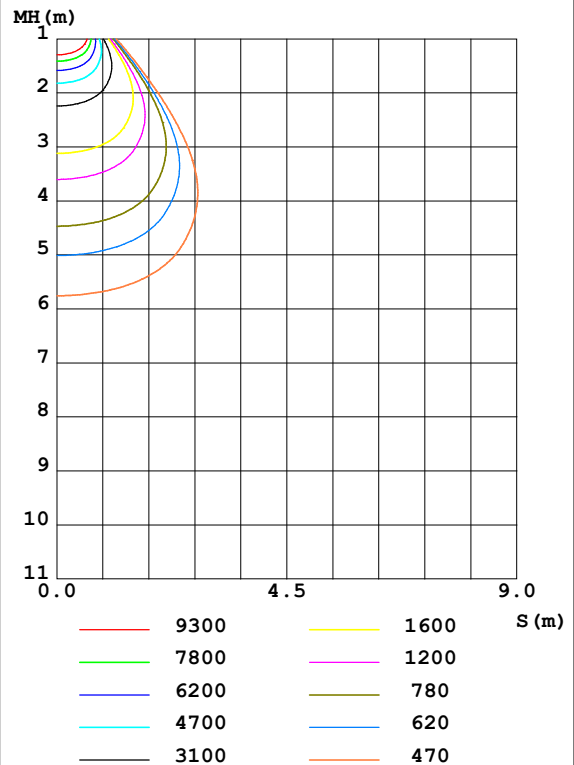
Test:U:119.5V I:1.2966A P:154.86W PF:0.9996 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:26255.3x1 lm		
NAME: HA04-150-5770-F01606	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 169.54 lm/W			
MODEL	/	I _{max} (cd)	16425	S/MH(C0/180)	1.23
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	26255	η UP,DN(C0-180)	0.0,48.1
NOMINAL FLUX(lm)	26255.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-11-29

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=0.4536]
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	1573	1568	1567	1568	1573	1581	1584	1581	0- 10	1493	1493	5.69,5.69
20	1596	1583	1578	1583	1596	1622	1638	1622	10- 20	4516	6009	22.9,22.9
30	1480	1476	1392	1476	1480	1562	1591	1562	20- 30	7258	13267	50.5,50.5
40	1004	902.8	893.4	902.8	1004	1052	1126	1052	30- 40	8122	21389	81.5,81.5
50	133.2	139.4	106.5	139.4	133.2	172.4	151.4	172.4	40- 50	3956	25346	96.5,96.5
60	33.55	28.17	29.08	28.17	33.55	31.76	35.15	31.76	50- 60	522.7	25868	98.5,98.5
70	20.25	15.34	16.11	15.34	20.25	18.36	20.51	18.36	60- 70	235.9	26104	99.4,99.4
80	7.081	4.858	3.995	4.858	7.081	6.753	7.101	6.753	70- 80	123.4	26228	99.9,99.9
90	0.0291	0.0232	0.0232	0.0232	0.0291	0.0574	0.0660	0.0574	80- 90	27.59	26255	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): 24163 lm

%lum = 92.0%

%lamp = 92.0%

Conical surface Flux(120deg): 25868 lm

%lum = 98.5%

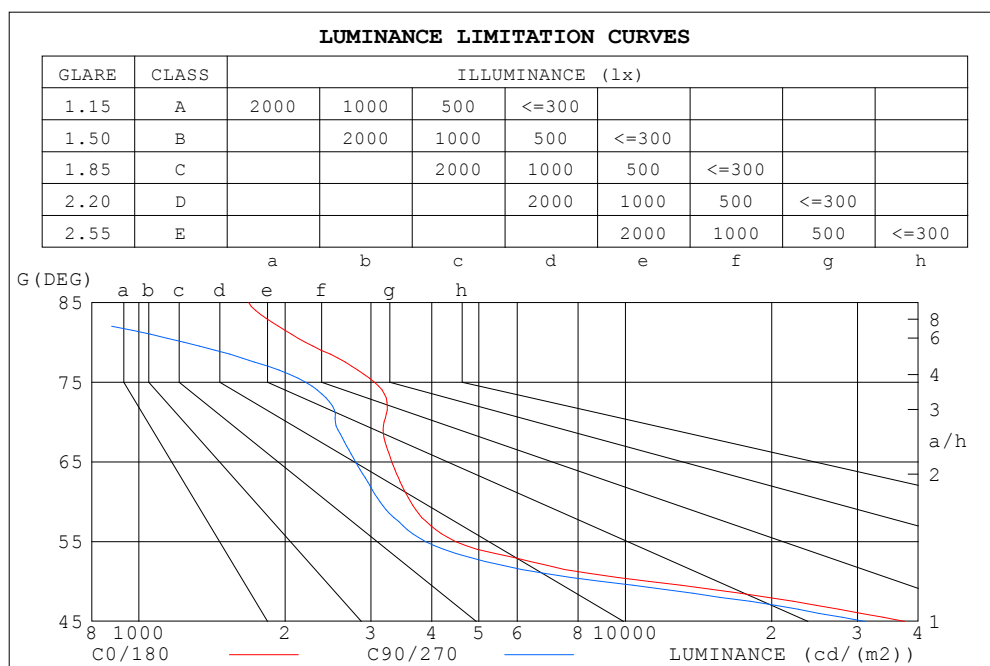
%lamp = 98.5%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
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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%
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Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1682	484
80	2200	1239
75	3050	2203
70	3194	2537
65	3312	2790
60	3619	3132
55	4486	3889
50	11177	8920
45	37478	31040

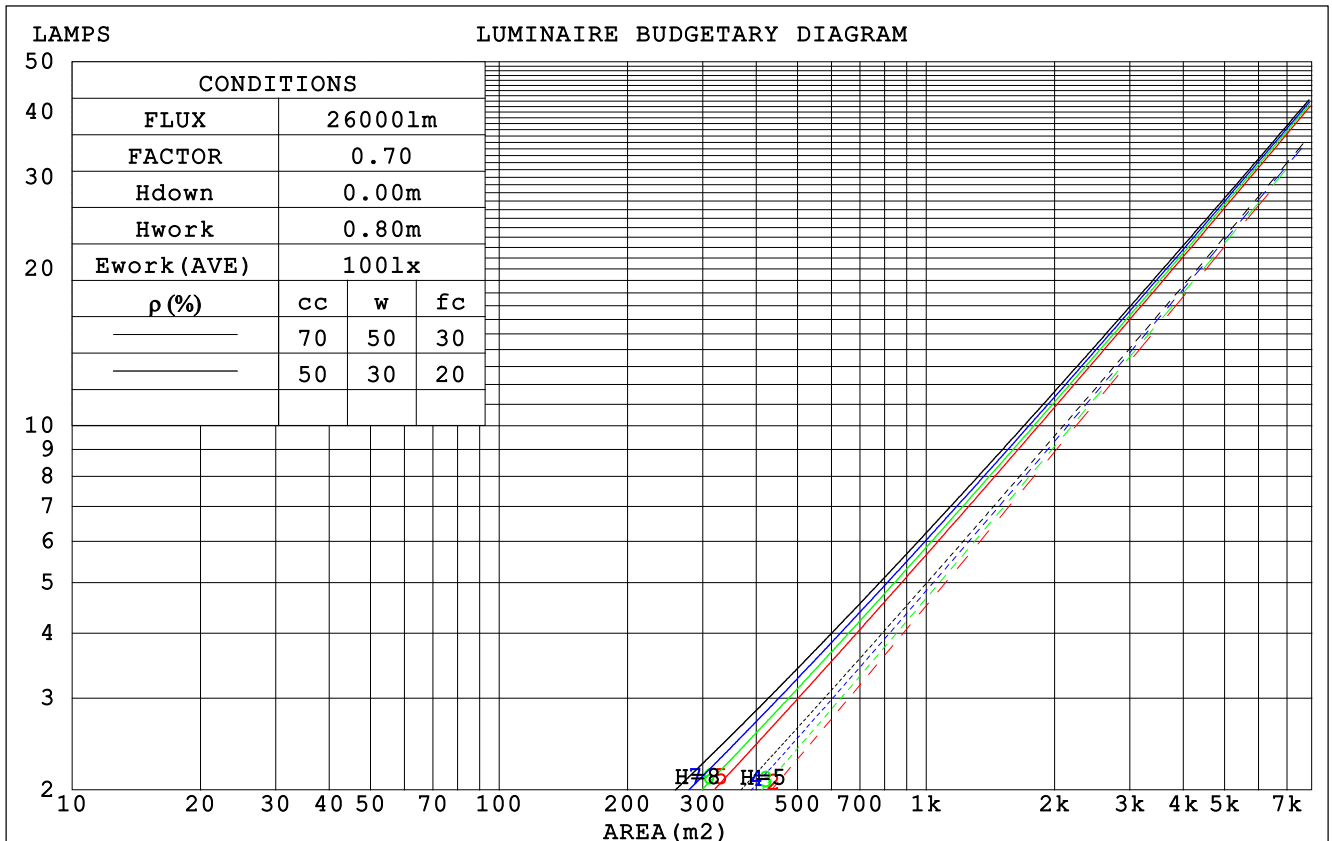
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 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2021-11-29

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=0.4536]
 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	1.09	1.07	1.04	1.07	1.05	1.02	1.03	1.01	.99	.99	.98	.96	.96	.95	.94	.92
2.0	1.00	.96	.92	.99	.94	.91	.95	.92	.89	.92	.89	.87	.89	.87	.85	.83
3.0	.92	.86	.82	.91	.85	.81	.88	.83	.80	.85	.82	.79	.83	.80	.77	.76
4.0	.85	.78	.73	.83	.78	.73	.81	.76	.72	.79	.75	.71	.77	.73	.70	.69
5.0	.78	.71	.66	.77	.71	.66	.75	.70	.65	.73	.68	.65	.72	.67	.64	.62
6.0	.72	.65	.60	.71	.65	.60	.69	.64	.59	.68	.63	.59	.67	.62	.59	.57
7.0	.67	.60	.55	.66	.59	.55	.64	.59	.54	.63	.58	.54	.62	.57	.54	.52
8.0	.62	.55	.50	.61	.54	.50	.60	.54	.50	.59	.53	.49	.58	.53	.49	.48
9.0	.57	.51	.46	.57	.50	.46	.56	.50	.46	.55	.49	.45	.54	.49	.45	.44
10.0	.53	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.50	.45	.42	.40



C Range: 0 - 360DEG
 C Interval: 15.0DEG
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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=0.4536]
 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	.202	.115	.036	.196	.112	.035	.183	.105	.034	.171	.099	.032	.160	.093	.030															
2.0	.196	.108	.033	.191	.105	.032	.180	.100	.031	.170	.095	.030	.161	.091	.029															
3.0	.188	.100	.030	.183	.098	.030	.174	.094	.029	.165	.091	.028	.157	.087	.027															
4.0	.180	.094	.027	.176	.092	.027	.167	.089	.027	.160	.086	.026	.153	.083	.025															
5.0	.172	.088	.025	.168	.086	.025	.161	.084	.025	.154	.081	.024	.148	.079	.024															
6.0	.164	.082	.024	.161	.081	.023	.154	.079	.023	.148	.077	.023	.143	.075	.022															
7.0	.156	.077	.022	.153	.076	.022	.148	.075	.022	.142	.073	.021	.137	.071	.021															
8.0	.149	.073	.021	.147	.072	.020	.142	.071	.020	.137	.069	.020	.132	.068	.020															
9.0	.143	.069	.019	.140	.068	.019	.136	.067	.019	.131	.066	.019	.127	.065	.019															
10.0	.137	.066	.018	.134	.065	.018	.130	.064	.018	.126	.063	.018	.123	.062	.018															

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	.173	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.160	.132	.110	.137	.114	.095	.094	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.149	.114	.086	.128	.098	.074	.088	.068	.052	.051	.040	.031	.016	.013	.010	
4.0	.140	.099	.069	.120	.086	.060	.082	.060	.042	.048	.035	.025	.015	.011	.008	
5.0	.132	.088	.056	.113	.076	.049	.078	.053	.034	.045	.031	.020	.015	.010	.007	
6.0	.125	.079	.046	.108	.069	.040	.074	.048	.029	.043	.028	.017	.014	.009	.006	
7.0	.119	.072	.039	.103	.063	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.114	.066	.033	.098	.057	.029	.068	.040	.021	.040	.024	.012	.013	.008	.004	
9.0	.109	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.104	.057	.025	.090	.049	.022	.062	.035	.016	.036	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2021-11-29

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=0.4536]
 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	8.3	9.4	8.6	9.7	10.0	7.7	8.8	8.0	9.1	9.4
3H	9.9	10.9	10.3	11.2	11.6	9.1	10.1	9.5	10.4	10.8
4H	10.5	11.4	10.9	11.8	12.2	9.6	10.5	10.0	10.8	11.2
6H	10.9	11.7	11.3	12.1	12.5	9.7	10.6	10.2	11.0	11.3
8H	11.0	11.8	11.4	12.2	12.6	9.7	10.5	10.2	10.9	11.3
12H	11.0	11.8	11.4	12.1	12.6	9.7	10.4	10.1	10.8	11.3
4H 2H	8.6	9.5	9.0	9.9	10.3	8.1	9.0	8.5	9.4	9.8
3H	10.4	11.1	10.8	11.5	11.9	9.7	10.4	10.1	10.8	11.2
4H	11.1	11.8	11.5	12.2	12.6	10.2	10.9	10.7	11.3	11.7
6H	11.6	12.1	12.0	12.6	13.1	10.5	11.0	10.9	11.5	11.9
8H	11.7	12.2	12.1	12.6	13.1	10.4	11.0	10.9	11.4	11.9
12H	11.7	12.2	12.2	12.7	13.2	10.4	10.9	10.9	11.4	11.8
8H 4H	11.2	11.7	11.6	12.1	12.6	10.4	10.9	10.8	11.3	11.8
6H	11.7	12.1	12.2	12.6	13.1	10.6	11.1	11.1	11.6	12.1
8H	11.8	12.2	12.4	12.7	13.2	10.7	11.0	11.2	11.6	12.0
12H	12.0	12.3	12.5	12.8	13.4	10.6	11.0	11.2	11.5	12.0
12H 4H	11.1	11.6	11.6	12.1	12.6	10.3	10.8	10.8	11.3	11.8
6H	11.7	12.0	12.2	12.5	13.1	10.6	11.0	11.2	11.5	12.0
8H	11.8	12.2	12.4	12.7	13.3	10.7	11.0	11.2	11.5	12.1
CIE190: 2010										

CIE190: 2010
Area: 0.18564 m2

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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=0.4536]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

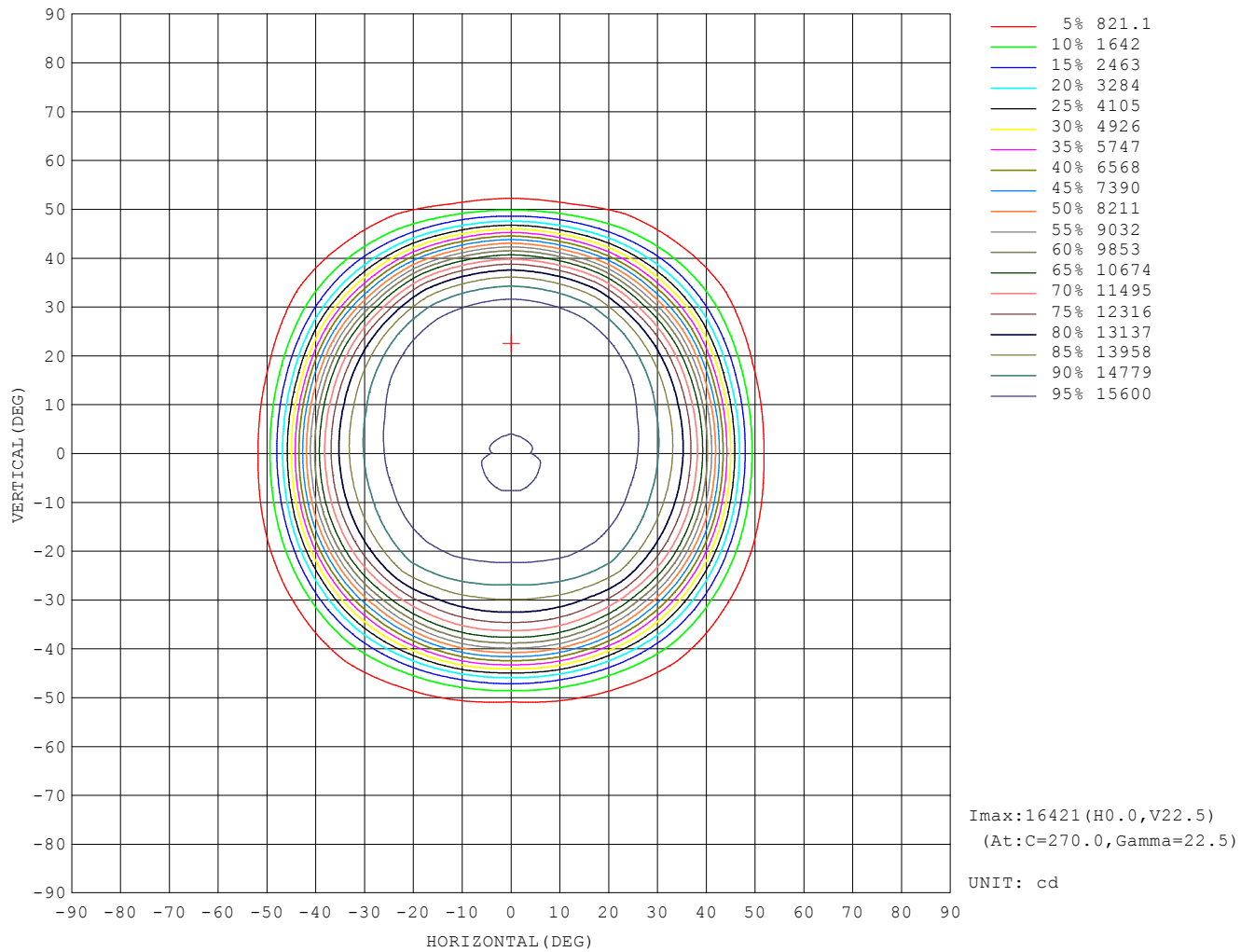
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	80	72	68	79	72	68	78	72	67	63
0.80	89	81	77	88	81	77	86	80	76	72
1.00	95	88	83	94	87	83	92	88	83	78
1.25	99	93	89	98	93	89	96	91	88	83
1.50	103	97	93	101	96	93	99	95	92	87
2.00	106	102	98	105	100	97	102	98	96	90
2.50	108	104	100	107	103	100	103	100	98	91
3.00	110	106	103	108	105	102	105	102	100	93
4.00	112	109	107	110	108	105	107	104	102	95
5.00	114	111	109	112	109	107	108	106	104	96
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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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=0.4536]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

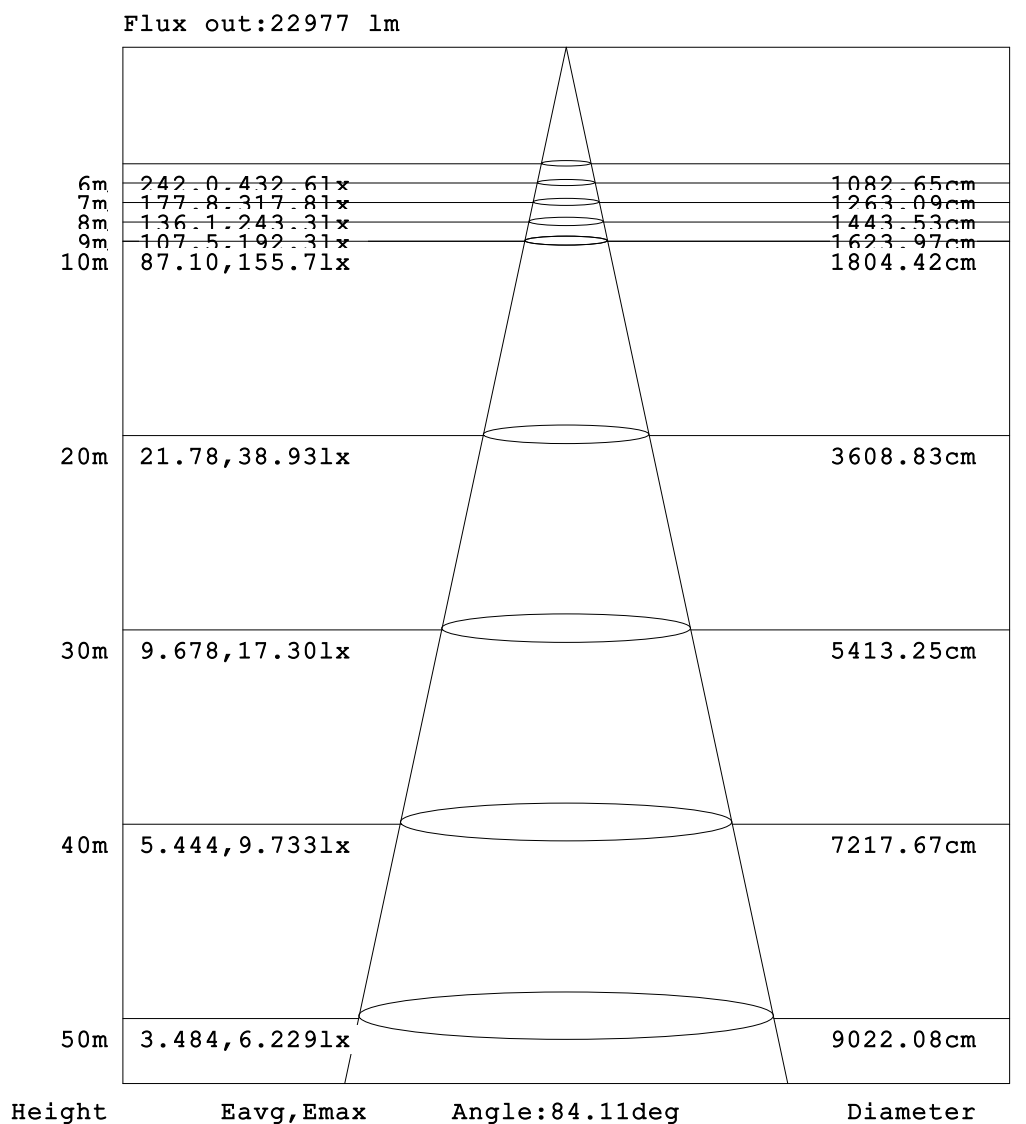
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
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Test Date:2021-11-29

γ Range: 0 - 90DEG
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Remarks:

AAI Figure



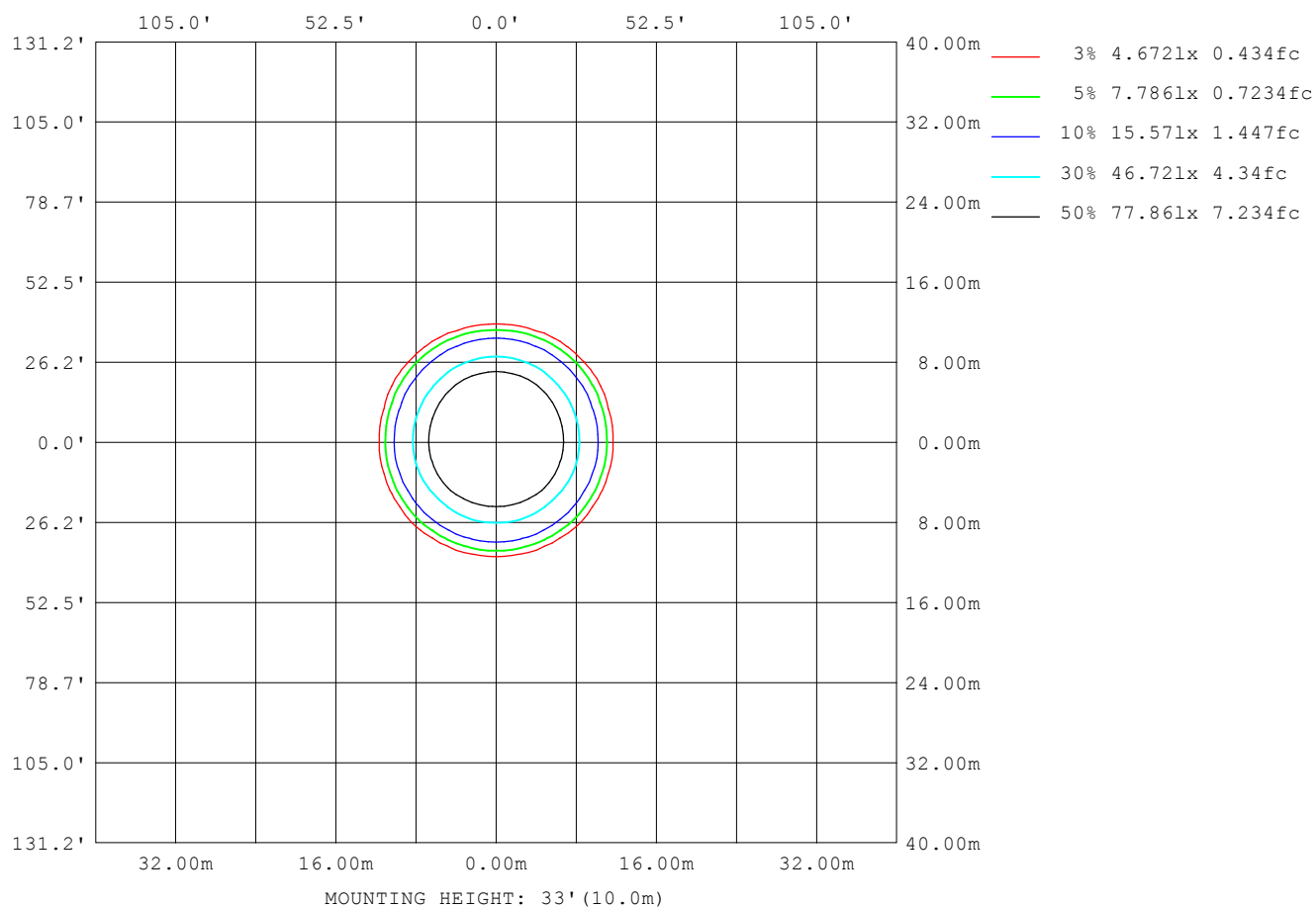
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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γ Range: 0 - 90DEG
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EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

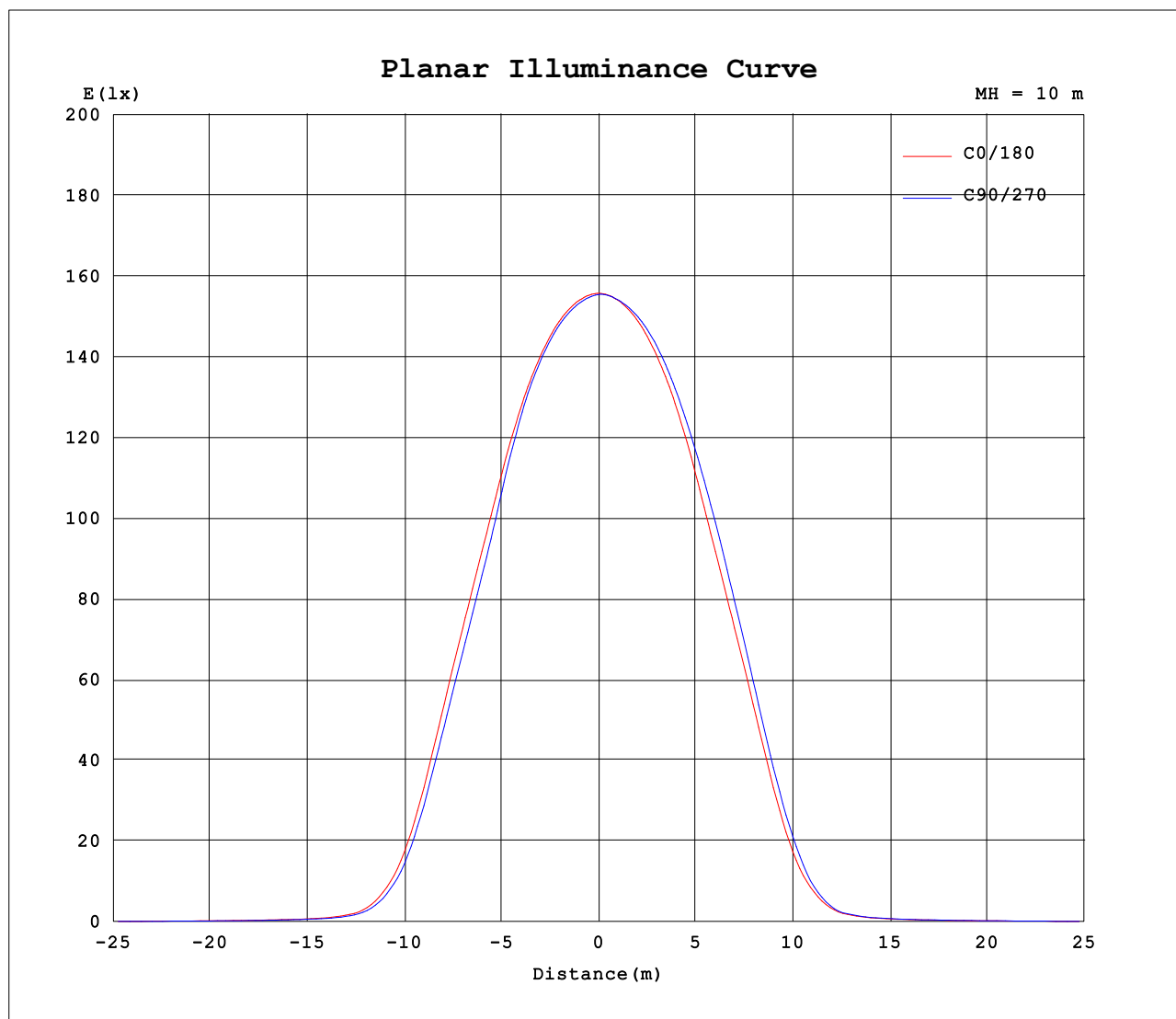
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
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Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-11-29

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=0.4536]
Remarks:

Planar Illuminance Curve



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Operators: LYJ
Test Date: 2021-11-29

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=0.4536]
Remarks: