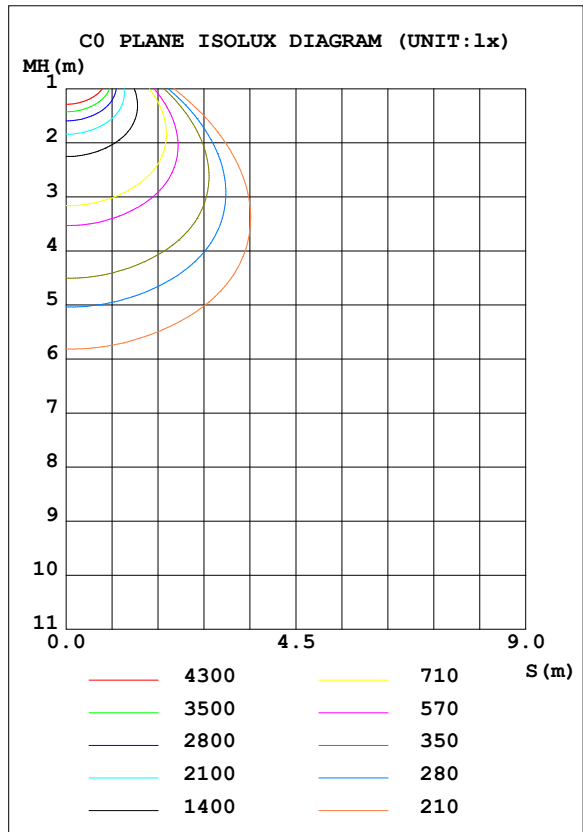
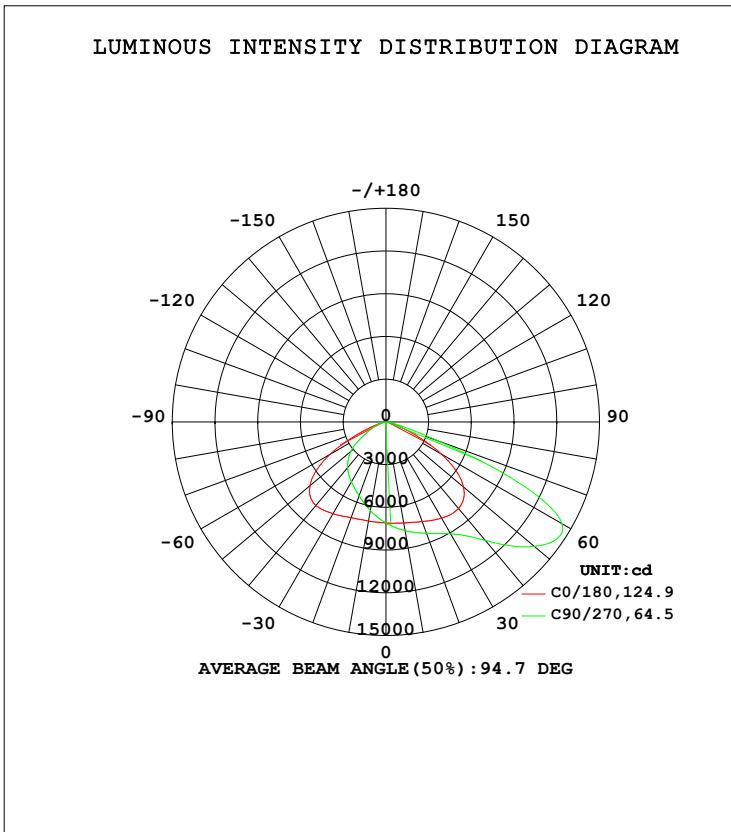


EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.7V I:0.8742A P:199.4W PF:0.9931 Freq:50.01Hz UTHdi:0% ITHDi:0% Lamp Flux:28221.3x1 lm		
NAME: FL23-200-5070-F22401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 141.50 lm/W			
MODEL	/	I _{max} (cd)	14608	S/MH (C0/180)	1.64
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.03
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	28221	η UP, DN (C0-180)	0.0, 67.9
NOMINAL FLUX (lm)	28221.3	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 32.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.75
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.75



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4589]
 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	720.1	768.3	775.0	754.8	706.6	652.0	631.7	659.1	0- 10	676.4	676.4	2.4,2.4
20	744.3	840.2	831.9	806.2	716.2	591.9	552.5	603.9	10- 20	2009	2685	9.51,9.51
30	780.3	937.6	906.2	889.3	743.9	534.5	485.8	547.8	20- 30	3323	6009	21.3,21.3
40	793.3	1072	1086	1030	765.8	473.4	419.5	486.3	30- 40	4679	10688	37.9,37.9
50	710.8	1172	1360	1167	695.9	391.7	321.9	394.7	40- 50	6018	16706	59.2,59.2
60	446.8	895.5	1427	927.8	450.3	256.3	164.1	253.3	50- 60	6379	23085	81.8,81.8
70	122.4	284.2	394.4	310.9	122.1	112.2	72.89	117.2	60- 70	4100	27185	96.3,96.3
80	19.97	29.02	30.93	28.94	17.66	18.51	21.83	20.41	70- 80	964.5	28149	99.7,99.7
90	0	0	0	0	0	0	0	0	80- 90	71.83	28221	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: $\times 10$ cd									UNIT:lm		

Conical surface Flux(90deg): 13552 lm

%lum = 48.0%
 %lamp = 48.0%

Conical surface Flux(120deg): 23085 lm

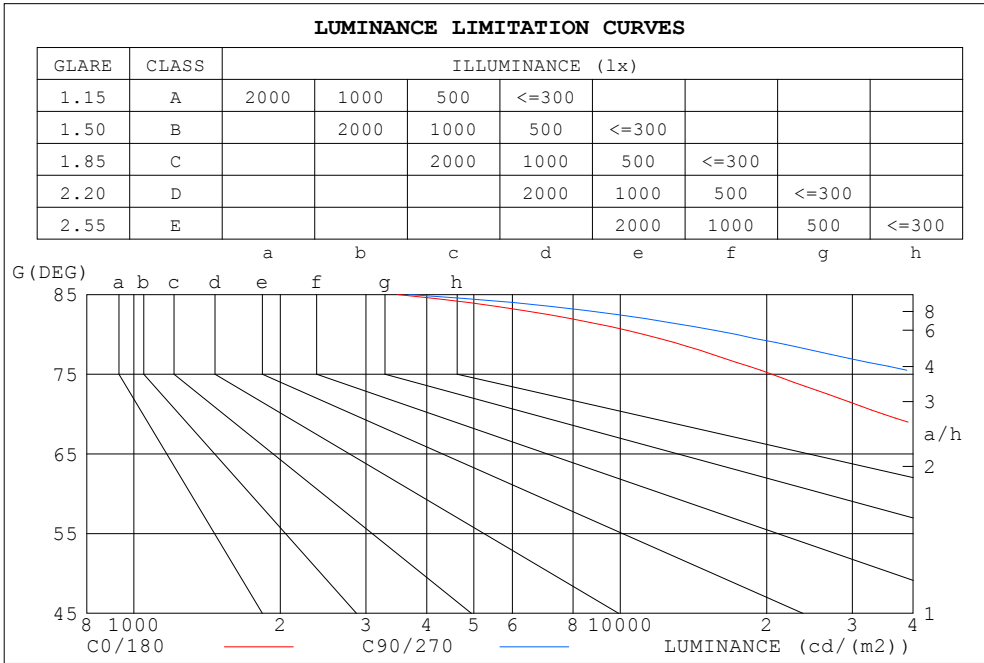
%lum = 81.8%
 %lamp = 81.8%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4589]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3481	3674
80	11162	17305
75	20482	42535
70	34731	112024
65	59067	247466
60	86752	277189
55	102109	245355
50	107356	205526
45	105619	168789

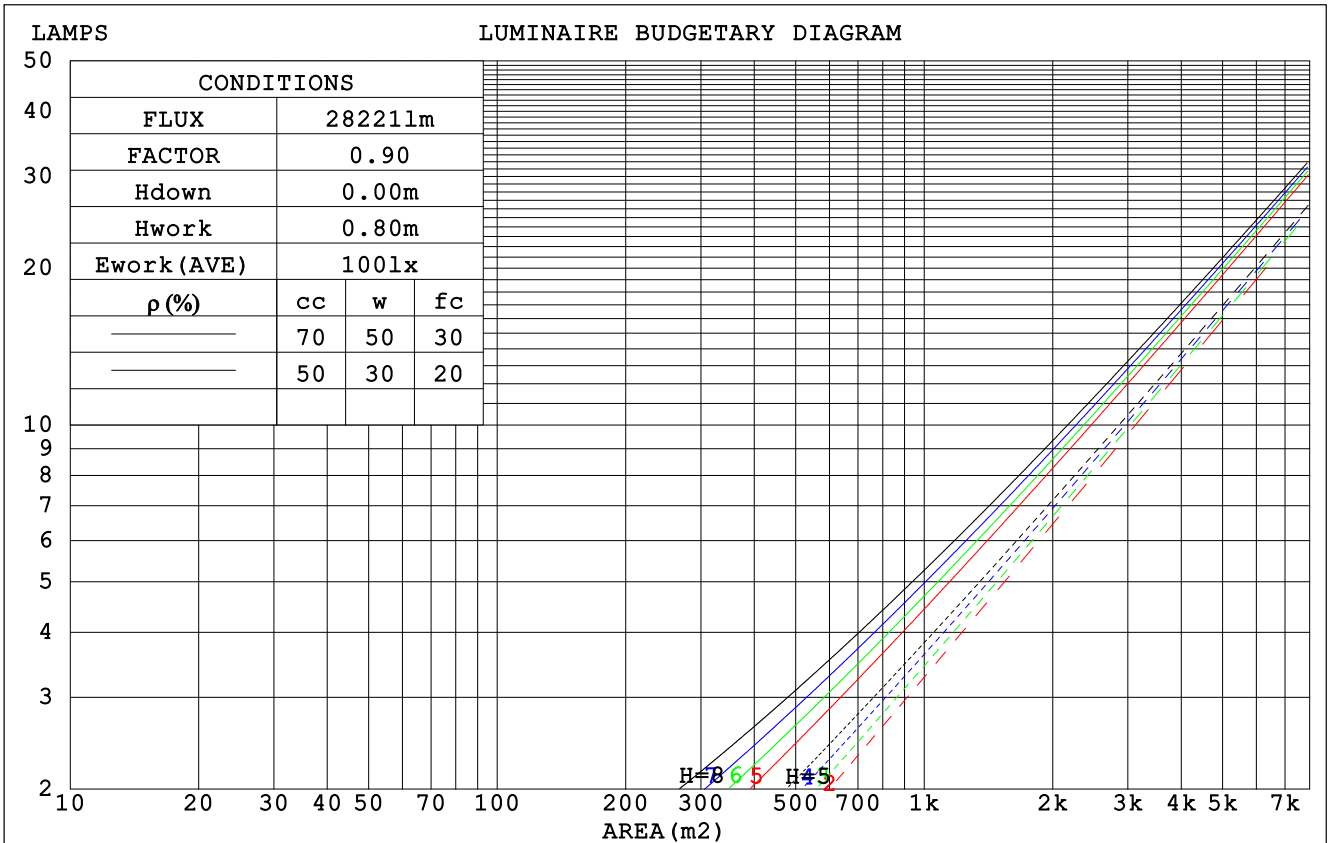
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4589]
 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	1.05	1.01	.97	1.03	.99	.96	.98	.95	.92	.94	.92	.90	.91	.89	.87	.85
2.0	.91	.84	.79	.89	.83	.78	.86	.80	.76	.82	.78	.74	.79	.76	.72	.70
3.0	.79	.71	.64	.78	.70	.64	.75	.68	.63	.72	.66	.61	.69	.64	.60	.58
4.0	.69	.60	.53	.68	.60	.53	.65	.58	.52	.63	.57	.52	.61	.55	.51	.49
5.0	.61	.52	.45	.60	.51	.45	.58	.50	.44	.56	.49	.44	.54	.48	.43	.41
6.0	.54	.45	.38	.53	.45	.38	.52	.44	.38	.50	.43	.38	.48	.42	.37	.35
7.0	.49	.40	.33	.48	.39	.33	.46	.39	.33	.45	.38	.33	.44	.37	.32	.30
8.0	.44	.35	.29	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.28	.26
9.0	.40	.32	.26	.40	.31	.26	.38	.31	.26	.37	.30	.25	.36	.30	.25	.23
10.0	.37	.29	.23	.36	.28	.23	.35	.28	.23	.34	.27	.23	.33	.27	.23	.21



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4589]
 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	.292	.166	.053	.285	.162	.052	.272	.156	.050	.260	.150	.048	.248	.144	.046	
2.0	.287	.157	.048	.281	.155	.048	.269	.150	.046	.258	.145	.045	.248	.140	.044	
3.0	.271	.144	.043	.266	.142	.043	.256	.138	.042	.246	.135	.041	.237	.131	.041	
4.0	.254	.132	.039	.249	.130	.039	.240	.127	.038	.231	.124	.037	.223	.121	.037	
5.0	.236	.121	.035	.232	.119	.035	.224	.117	.034	.216	.114	.034	.209	.112	.034	
6.0	.220	.110	.032	.216	.109	.031	.209	.107	.031	.202	.105	.031	.196	.103	.031	
7.0	.205	.102	.029	.202	.101	.029	.195	.099	.028	.189	.097	.028	.183	.095	.028	
8.0	.192	.094	.026	.189	.093	.026	.183	.091	.026	.177	.090	.026	.172	.088	.026	
9.0	.180	.087	.024	.177	.086	.024	.172	.085	.024	.167	.084	.024	.162	.082	.024	
10.0	.169	.081	.023	.167	.080	.022	.162	.079	.022	.157	.078	.022	.153	.077	.022	

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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.172	.132	.099	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.158	.101	.058	.136	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.046	.130	.079	.040	.089	.055	.028	.052	.032	.017	.017	.011	.006	
6.0	.144	.083	.038	.124	.072	.033	.086	.050	.024	.050	.029	.014	.016	.010	.005	
7.0	.138	.076	.032	.119	.066	.028	.082	.046	.020	.048	.027	.012	.015	.009	.004	
8.0	.132	.070	.028	.113	.061	.024	.078	.043	.017	.046	.025	.010	.015	.008	.003	
9.0	.125	.065	.024	.108	.057	.021	.075	.040	.015	.044	.023	.009	.014	.008	.003	
10.0	.120	.061	.022	.103	.053	.019	.072	.037	.014	.042	.022	.008	.014	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4589]
 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	30.5	32.0	30.7	32.2	32.4	35.3	36.9	35.6	37.1	37.3
3H	30.6	32.0	30.9	32.3	32.5	36.5	37.9	36.8	38.2	38.4
4H	30.5	31.9	30.9	32.2	32.4	36.5	37.9	36.8	38.1	38.4
6H	30.4	31.7	30.8	32.0	32.3	36.4	37.7	36.7	37.9	38.2
8H	30.4	31.6	30.7	31.9	32.2	36.3	37.6	36.7	37.9	38.2
12H	30.4	31.5	30.7	31.8	32.1	36.3	37.5	36.6	37.8	38.1
4H 2H	31.7	33.1	32.1	33.4	33.6	35.5	36.9	35.8	37.1	37.4
3H	31.9	33.1	32.2	33.4	33.7	36.8	38.0	37.1	38.3	38.6
4H	31.8	32.9	32.2	33.2	33.6	36.8	37.9	37.2	38.2	38.5
6H	31.8	32.7	32.2	33.1	33.4	36.7	37.7	37.1	38.0	38.4
8H	31.7	32.6	32.1	33.0	33.3	36.7	37.6	37.1	37.9	38.3
12H	31.7	32.5	32.1	32.9	33.3	36.7	37.5	37.1	37.8	38.3
8H 4H	32.0	32.8	32.4	33.2	33.6	36.7	37.6	37.1	37.9	38.3
6H	31.9	32.6	32.4	33.0	33.5	36.7	37.4	37.1	37.8	38.2
8H	31.9	32.5	32.3	32.9	33.4	36.6	37.3	37.1	37.7	38.1
12H	31.9	32.4	32.3	32.8	33.3	36.6	37.1	37.1	37.6	38.1
12H 4H	31.9	32.7	32.4	33.1	33.5	36.7	37.5	37.1	37.8	38.2
6H	31.9	32.5	32.3	32.9	33.4	36.6	37.3	37.1	37.7	38.1
8H	31.9	32.4	32.3	32.8	33.3	36.6	37.1	37.1	37.6	38.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.4 / - 0.6					+ 0.3 / - 0.4				
1.5H	+ 0.7 / - 1.1					+ 0.7 / - 1.1				
2.0H	+ 1.1 / - 1.8					+ 1.3 / - 2.9				

CIE Pub.117, 28221 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.6)
 Area: 0.103 m²

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4589]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

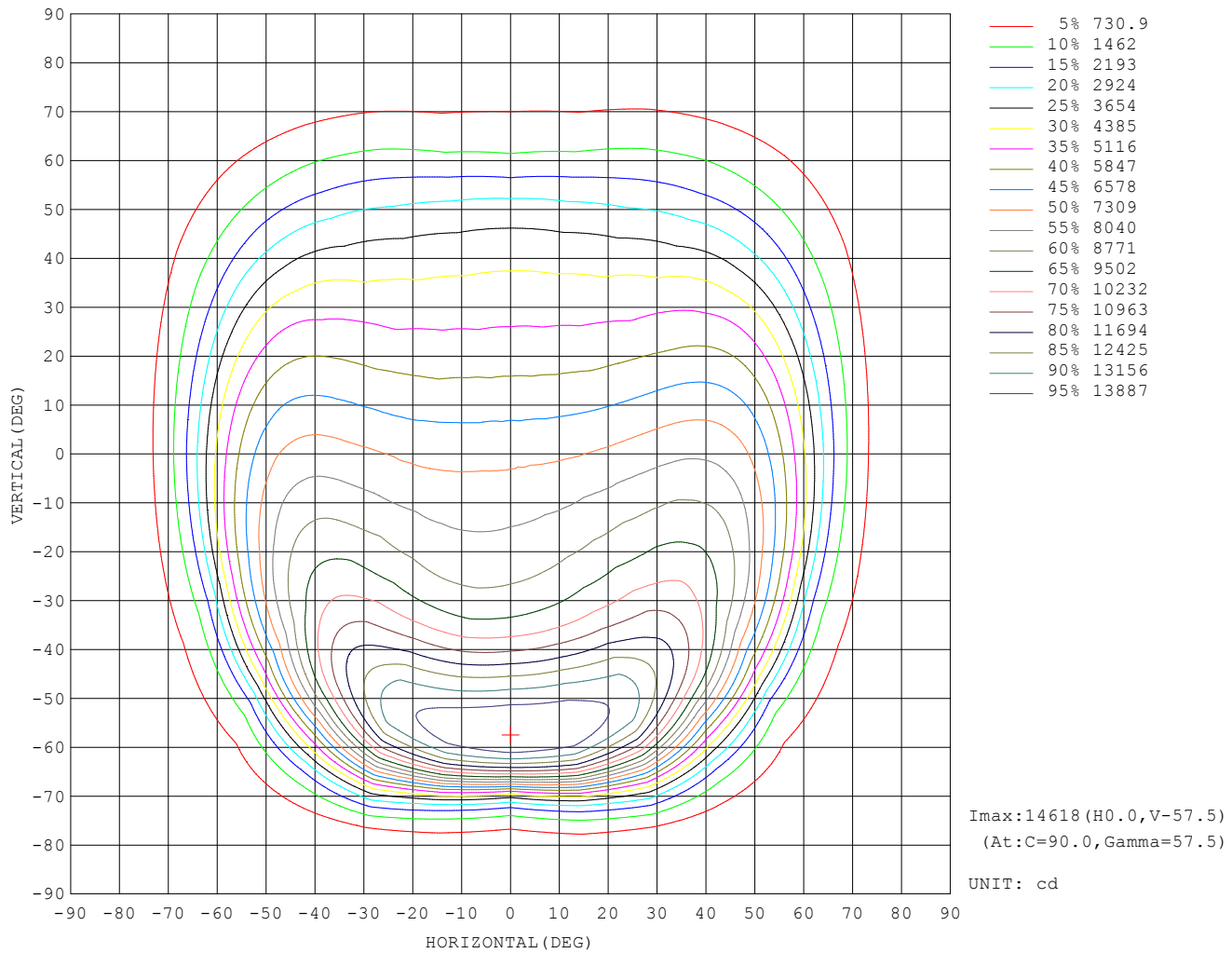
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	53	40	32	52	40	32	50	39	32	25
0.80	64	51	43	63	51	43	61	50	43	35
1.00	74	62	54	72	61	54	70	63	53	46
1.25	82	71	63	80	70	63	77	68	62	54
1.50	87	77	70	85	76	69	82	74	68	60
2.00	95	86	80	93	85	79	89	83	77	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	103	96	90	100	94	89	96	91	87	79
4.00	107	101	97	104	99	95	100	96	92	84
5.00	109	104	100	107	102	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4589]
 Remarks:

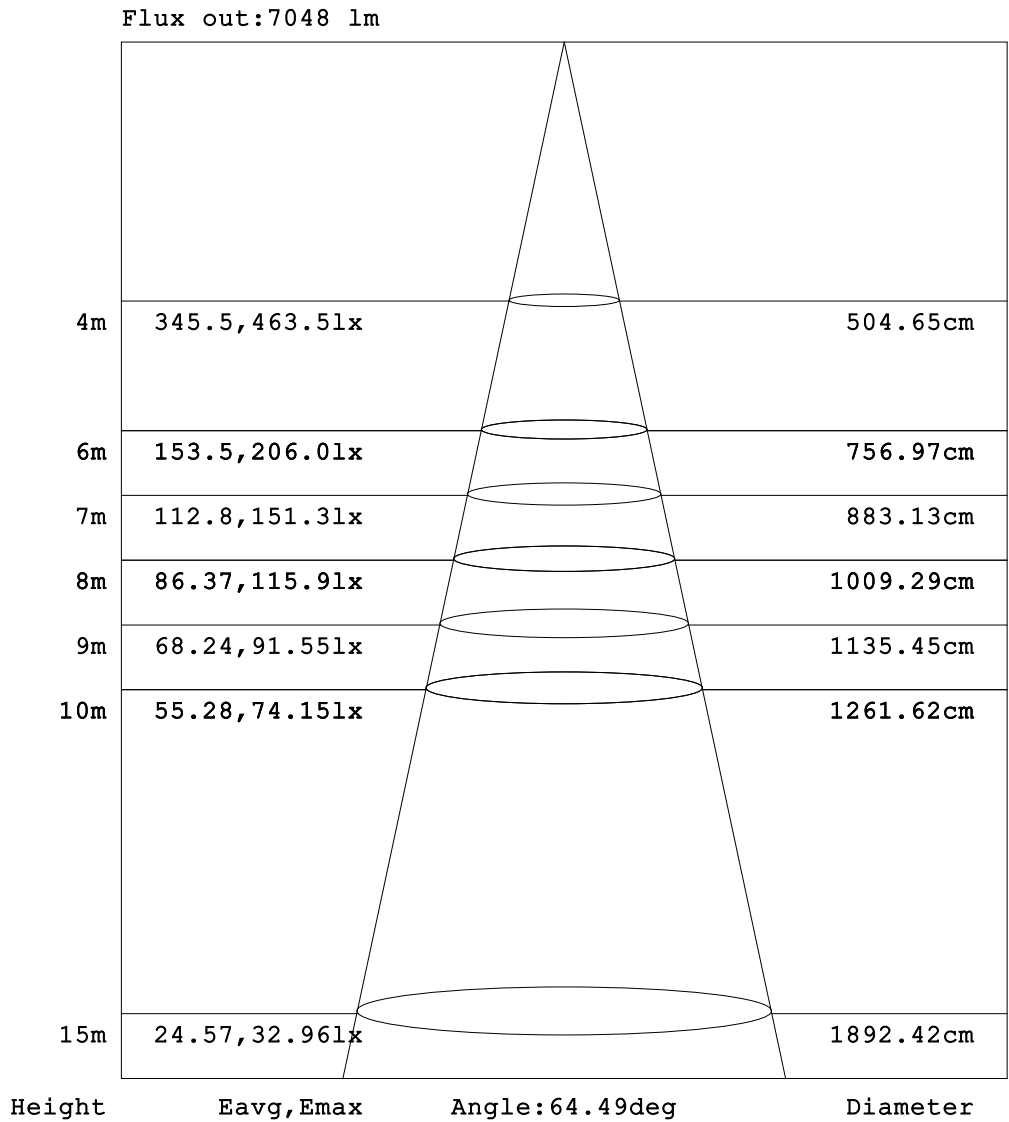
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4589]
 Remarks:

AAI Figure



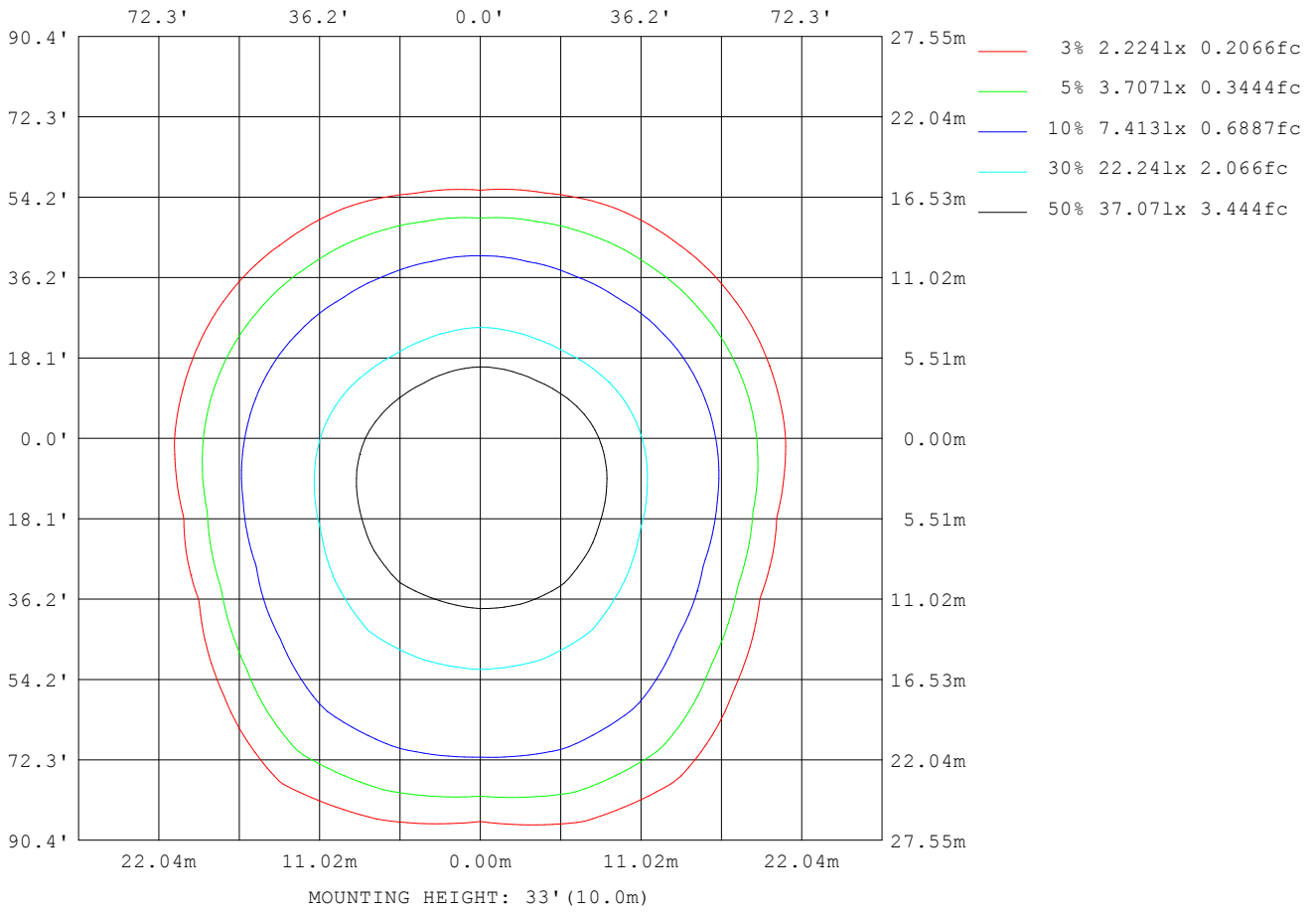
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
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γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4589]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

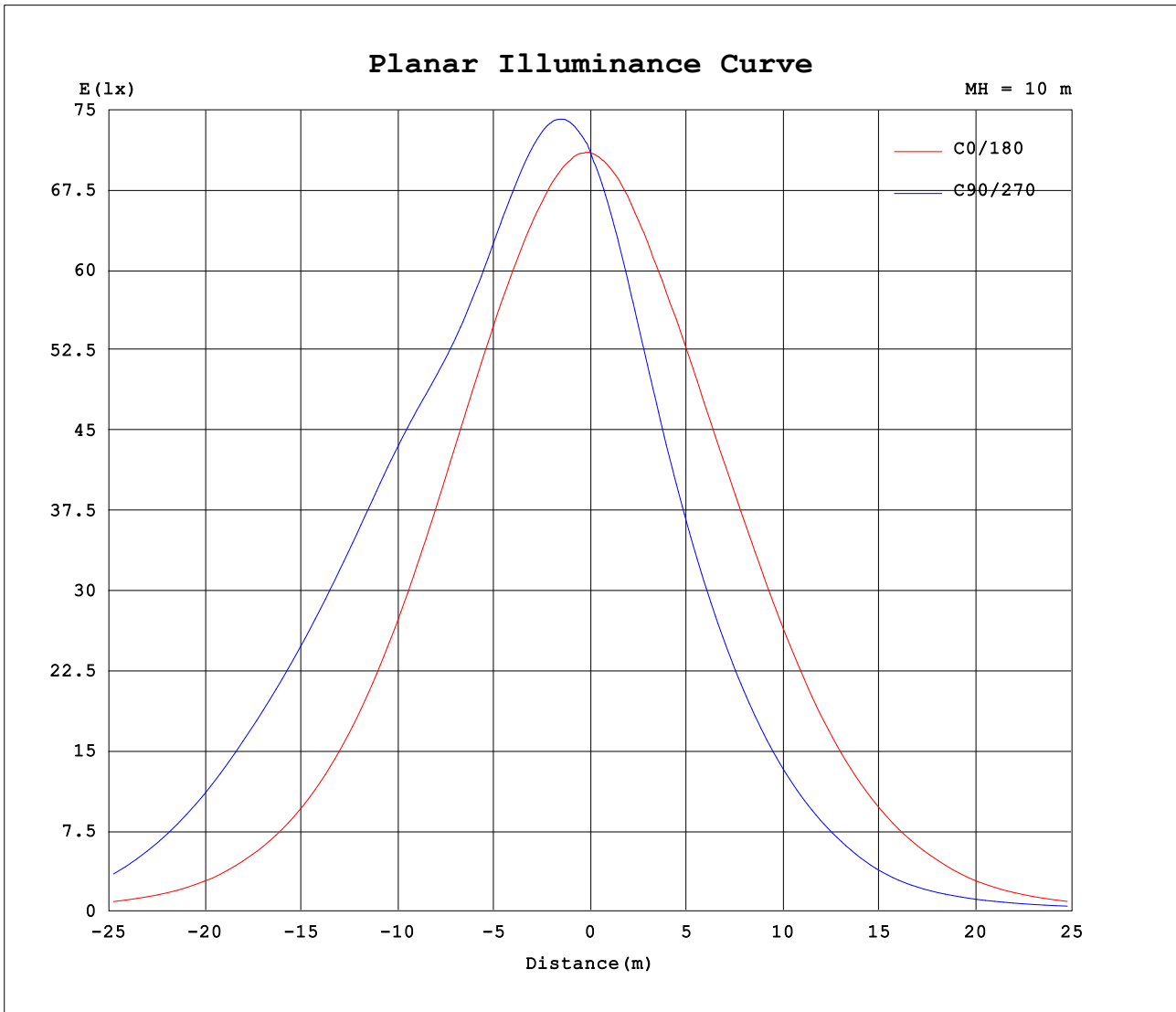
ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4589]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-13

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks: