

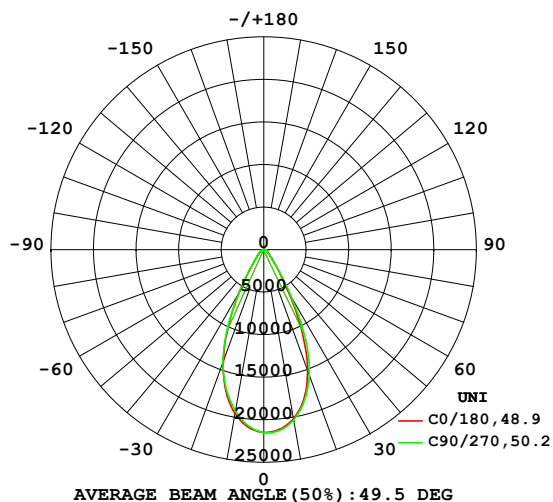
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

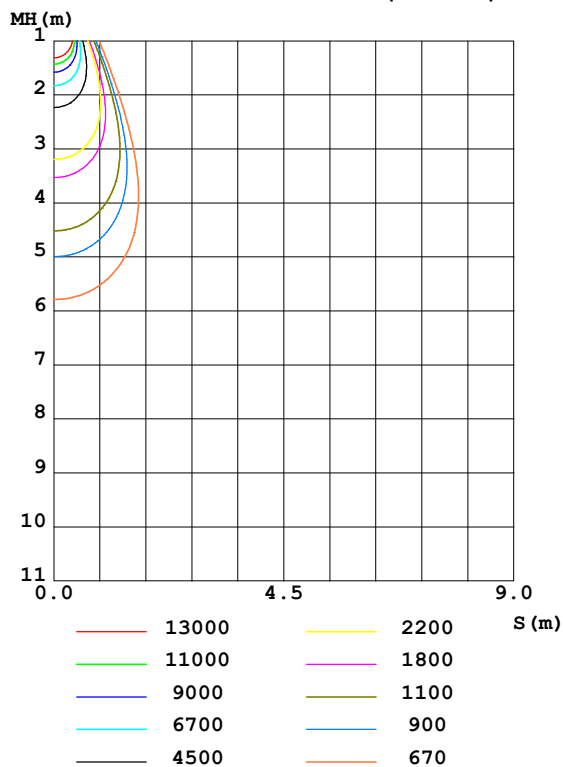
Test:U:230.0V I:0.4500A P:102.2W PF:0.9868 Freq:49.99Hz Lamp Flux:15579.7x1 lm		
NAME: FL23-100-5070-F12802	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 152.50 lm/W			
MODEL	-	I _{max} (cd)	21545	S/MH (C0/180)	0.74
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH (C90/270)	0.74
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	15580	η UP,DN(C0-180)	0.0,51.7
NOMINAL FLUX(lm)	15579.7	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.75

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: WJH
Test Date: 2020-07-06

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 9.350m [K=1.0000]
Remarks:

Checker: LI

Assessor:

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	2016	2034	2031	2008	1956	1924	1925	1957	0- 10	1971	1971	12.7,12.7
20	1507	1563	1567	1494	1394	1379	1408	1431	10- 20	4897	6868	44.1,44.1
30	602.7	643.9	672.9	632.9	571.7	562.9	573.9	565.7	20- 30	4720	11588	74.4,74.4
40	177.8	178.4	188.1	181.0	172.0	168.6	171.2	168.9	30- 40	2071	13659	87.7,87.7
50	83.60	82.29	82.99	82.88	81.76	80.45	79.79	80.73	40- 50	909.5	14568	93.5,93.5
60	48.27	46.10	48.42	47.20	47.34	44.86	45.27	44.28	50- 60	541.6	15110	97,97
70	23.60	20.72	23.04	21.73	23.79	20.94	21.85	19.44	60- 70	318.7	15429	99,99
80	6.013	4.753	4.555	5.441	6.594	5.834	6.288	4.735	70- 80	133.2	15562	99.9,99.9
90	0.2070	0.1978	0.1879	0.1998	0.2095	0.2392	0.2471	0.2299	80- 90	17.60	15580	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 14179 lm

%lum = 91.0%

%lamp = 91.0%

Conical surface Flux(120deg): 15110 lm

%lum = 97.0%

%lamp = 97.0%

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C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:WJH
Test Date:2020-07-06

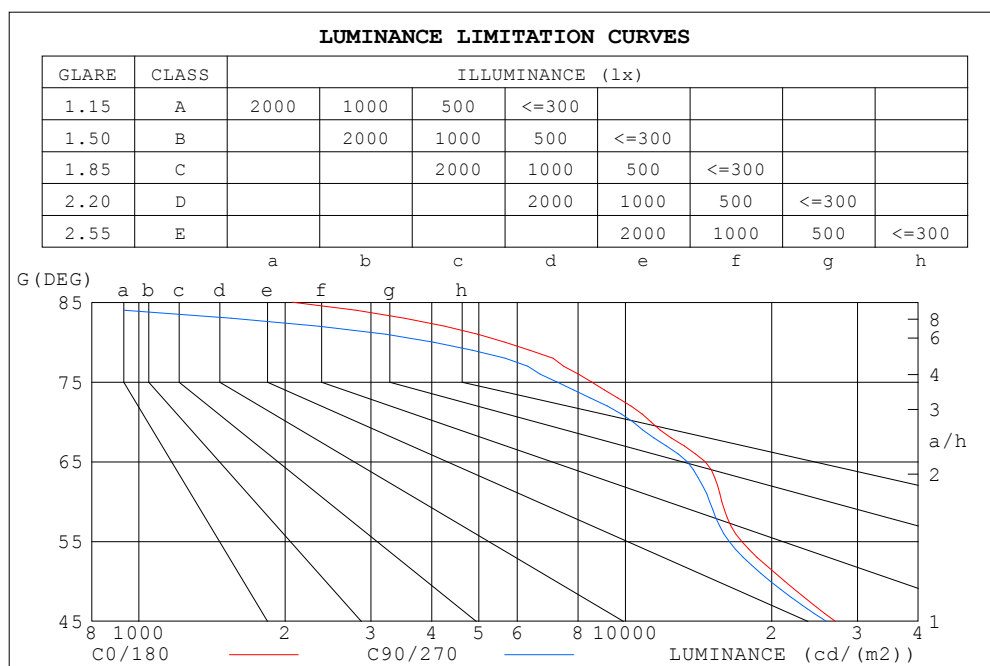
γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:9.350m [K=1.0000]
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EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2071	633
80	5665	4040
75	8525	7240
70	11290	10376
65	14602	13413
60	15794	14914
55	17339	16353
50	21277	19884
45	27044	25913

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Checker: LI

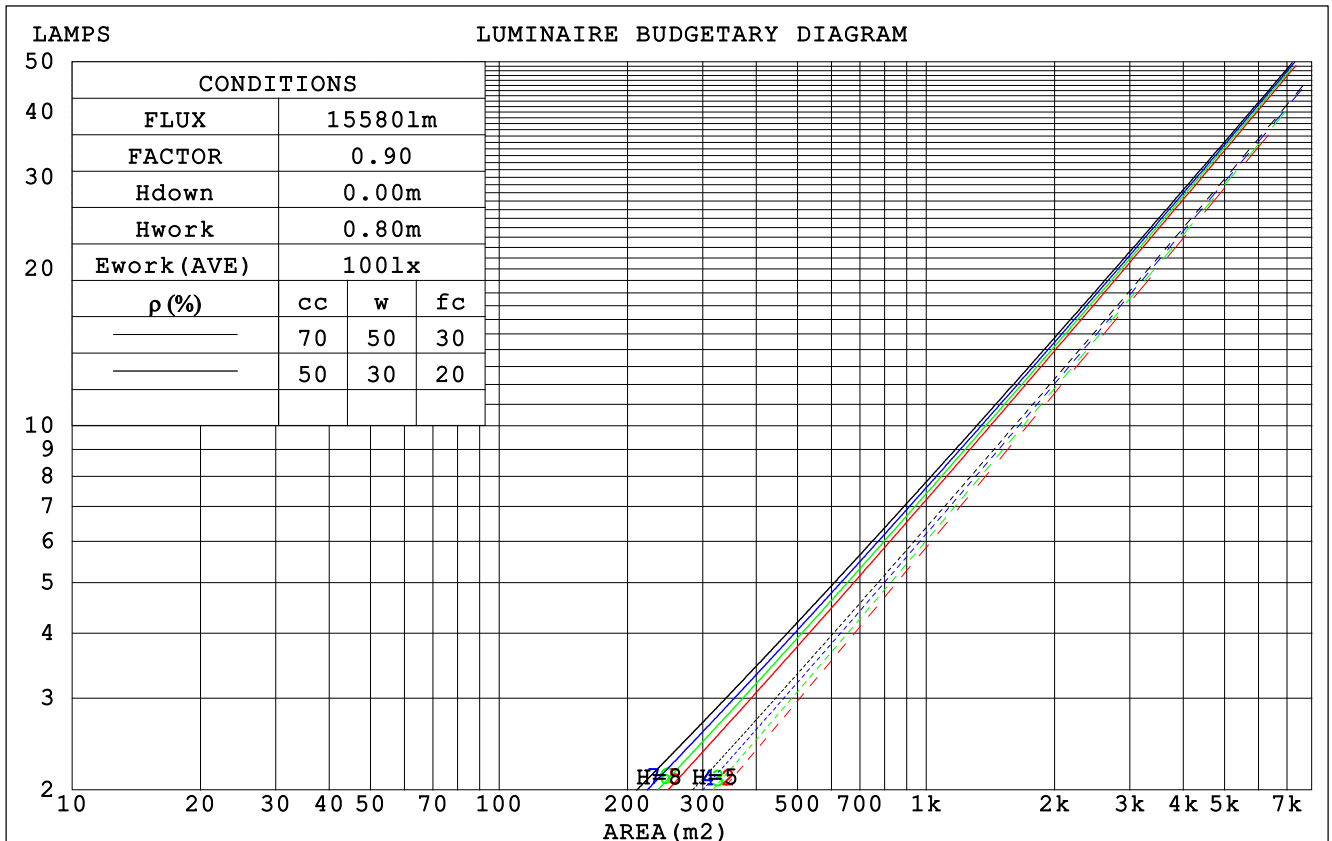
γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

Assessor:

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	.00
1.0	1.10	1.08	1.06	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	.95	1.01	.97	.94	.98	.94	.92	.95	.92	.90	.92	.90	.88	.86
3.0	.96	.90	.86	.94	.89	.86	.91	.88	.84	.89	.86	.83	.87	.84	.82	.80
4.0	.89	.84	.79	.88	.83	.79	.86	.82	.78	.84	.80	.77	.82	.79	.76	.75
5.0	.84	.78	.74	.83	.77	.73	.81	.76	.73	.79	.75	.72	.78	.74	.71	.70
6.0	.79	.73	.69	.78	.72	.68	.77	.72	.68	.75	.71	.67	.74	.70	.67	.66
7.0	.74	.68	.64	.74	.68	.64	.72	.67	.64	.71	.67	.63	.70	.66	.63	.62
8.0	.70	.65	.60	.70	.64	.60	.69	.64	.60	.68	.63	.60	.67	.63	.60	.58
9.0	.67	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.57	.64	.59	.56	.55
10.0	.63	.58	.54	.63	.58	.54	.62	.57	.54	.61	.57	.54	.61	.57	.53	.52



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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
 Remarks:

Checker: LI

Assessor:

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	.185	.105	.033	.178	.101	.032	.165	.095	.030	.154	.089	.028	.143	.083	.027															
2.0	.176	.096	.030	.170	.094	.029	.160	.089	.028	.150	.084	.026	.141	.080	.025															
3.0	.167	.089	.027	.162	.087	.026	.153	.083	.025	.144	.079	.024	.136	.076	.023															
4.0	.157	.082	.024	.153	.080	.024	.145	.077	.023	.138	.074	.022	.131	.071	.022															
5.0	.149	.076	.022	.146	.075	.022	.139	.072	.021	.132	.070	.021	.126	.068	.020															
6.0	.142	.071	.020	.138	.070	.020	.132	.068	.020	.127	.066	.019	.121	.064	.019															
7.0	.135	.067	.019	.132	.066	.019	.126	.064	.018	.121	.062	.018	.117	.061	.018															
8.0	.128	.063	.018	.126	.062	.017	.121	.060	.017	.117	.059	.017	.112	.058	.017															
9.0	.122	.059	.017	.120	.059	.016	.116	.057	.016	.112	.056	.016	.108	.055	.016															
10.0	.117	.056	.016	.115	.056	.016	.111	.055	.015	.108	.053	.015	.104	.052	.015															

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	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.134	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.125	.087	.059	.108	.076	.052	.074	.053	.036	.043	.031	.022	.014	.010	.007	
6.0	.118	.078	.050	.101	.068	.043	.070	.047	.031	.041	.028	.018	.013	.009	.006	
7.0	.111	.070	.042	.096	.061	.037	.066	.043	.026	.038	.025	.015	.012	.008	.005	
8.0	.105	.064	.036	.091	.056	.031	.063	.039	.022	.036	.023	.013	.012	.008	.004	
9.0	.100	.059	.031	.086	.051	.027	.060	.036	.019	.035	.021	.012	.011	.007	.004	
10.0	.095	.055	.027	.082	.047	.024	.057	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:9.350m [K=1.0000]
 Remarks:

Checker: LI

Assessor:

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	16.8	17.8	17.1	18.1	18.5	16.6	17.6	16.9	17.9	18.3
3H	17.8	18.8	18.2	19.1	19.5	17.6	18.5	18.0	18.8	19.2
4H	18.1	19.0	18.5	19.4	19.7	17.8	18.7	18.2	19.1	19.4
6H	18.3	19.0	18.7	19.4	19.8	17.9	18.7	18.3	19.1	19.5
8H	18.2	19.0	18.7	19.4	19.8	17.9	18.6	18.3	19.0	19.4
12H	18.2	18.9	18.6	19.3	19.7	17.8	18.5	18.2	18.9	19.3
4H 2H	17.2	18.0	17.6	18.4	18.8	17.0	17.9	17.4	18.2	18.6
3H	18.4	19.1	18.8	19.5	19.9	18.2	18.9	18.6	19.3	19.7
4H	18.7	19.4	19.2	19.8	20.2	18.5	19.1	18.9	19.5	20.0
6H	18.9	19.4	19.4	19.9	20.4	18.6	19.1	19.0	19.5	20.0
8H	18.9	19.4	19.4	19.8	20.3	18.5	19.0	19.0	19.5	19.9
12H	18.9	19.3	19.3	19.8	20.3	18.5	18.9	18.9	19.4	19.9
8H 4H	18.8	19.3	19.2	19.7	20.2	18.5	19.0	19.0	19.5	19.9
6H	19.0	19.4	19.5	19.9	20.4	18.6	19.0	19.2	19.5	20.0
8H	19.0	19.3	19.5	19.8	20.3	18.6	19.0	19.1	19.5	20.0
12H	18.9	19.3	19.5	19.7	20.3	18.6	18.9	19.1	19.4	19.9
12H 4H	18.7	19.2	19.2	19.6	20.1	18.5	18.9	19.0	19.4	19.9
6H	18.9	19.3	19.5	19.7	20.3	18.6	19.0	19.1	19.4	20.0
8H	18.9	19.2	19.5	19.7	20.3	18.6	18.9	19.1	19.4	20.0
CIE190: 2010										

CIE190: 2010
Area: 0.0638 m2

C Range: 0 - 360DEG
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Test Speed: HIGH
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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:9.350m [K=1.0000]
Remarks:

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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) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	83	77	73	82	76	72	69
0.80	92	85	81	91	85	81	90	84	80	76
1.00	97	90	86	96	90	86	94	90	86	81
1.25	101	95	91	100	95	91	98	93	90	86
1.50	104	99	95	103	98	94	100	96	93	89
2.00	107	102	99	106	101	98	103	99	97	91
2.50	109	105	102	107	104	101	104	101	99	93
3.00	111	107	104	109	106	103	106	103	101	94
4.00	113	110	108	111	108	106	107	105	103	96
5.00	114	112	110	112	110	108	108	107	105	97
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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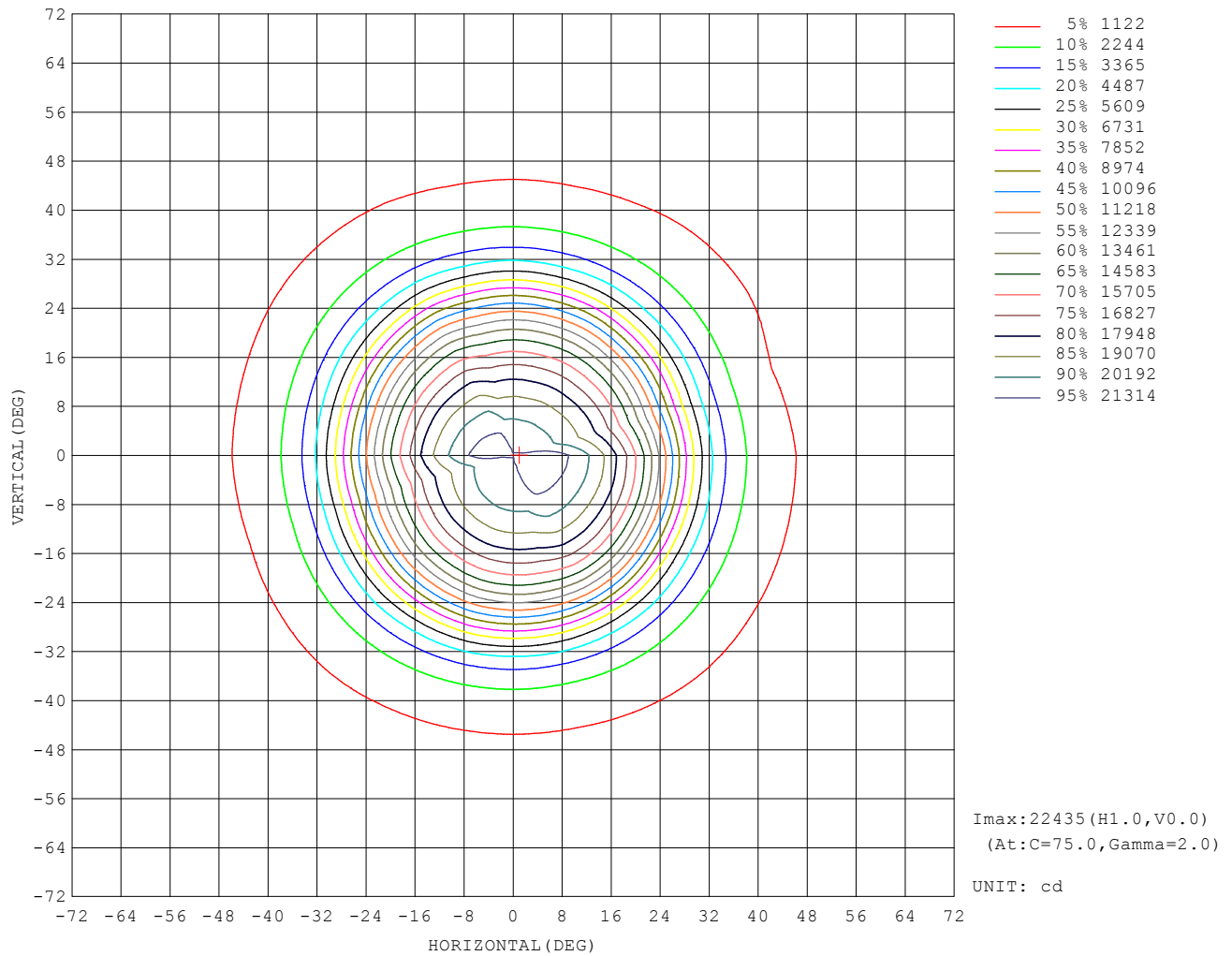
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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 9.350m [K=1.0000]
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EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM



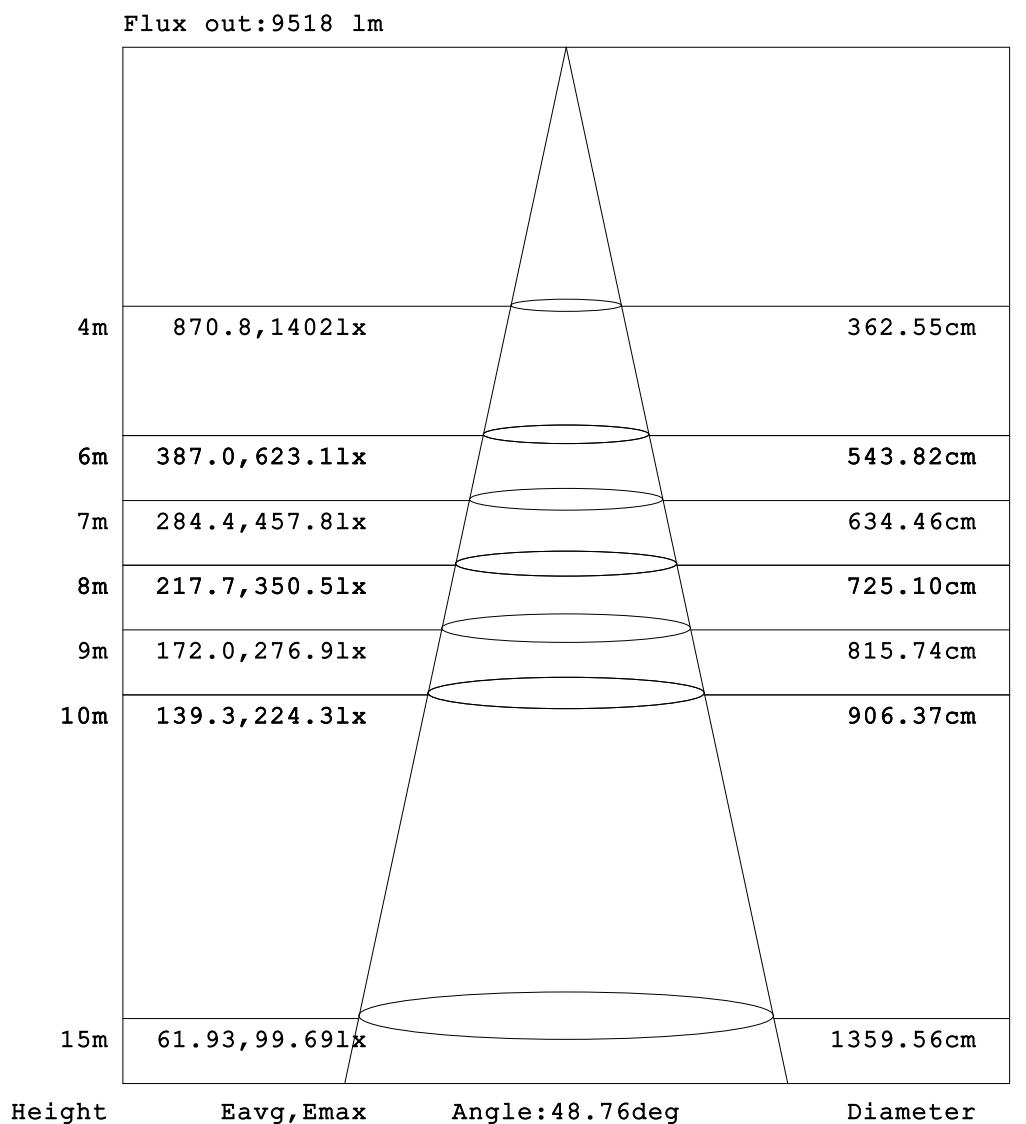
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Remarks:

Checker: LI

Assessor:

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: WJH
Test Date: 2020-07-06

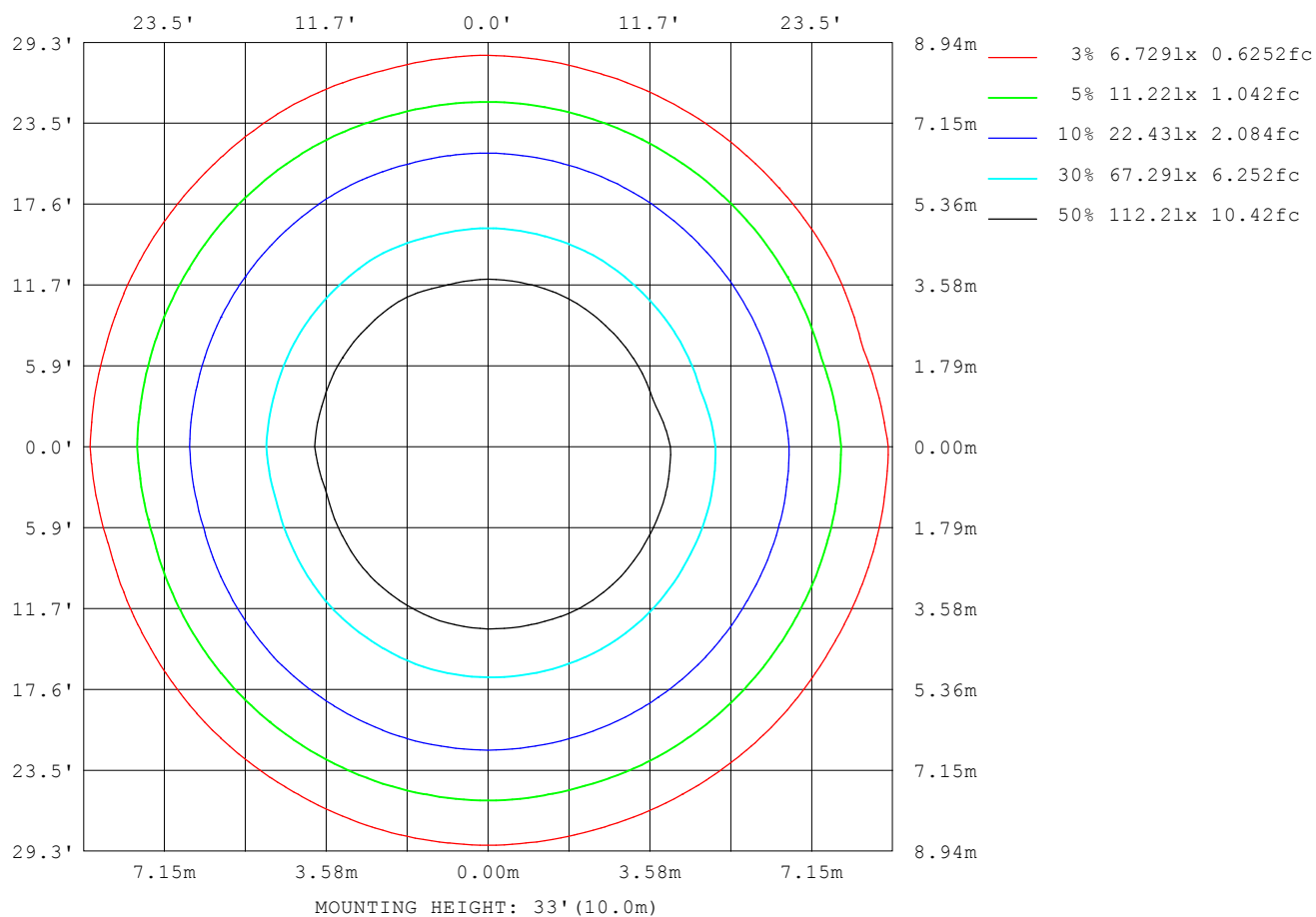
γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.426
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EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM



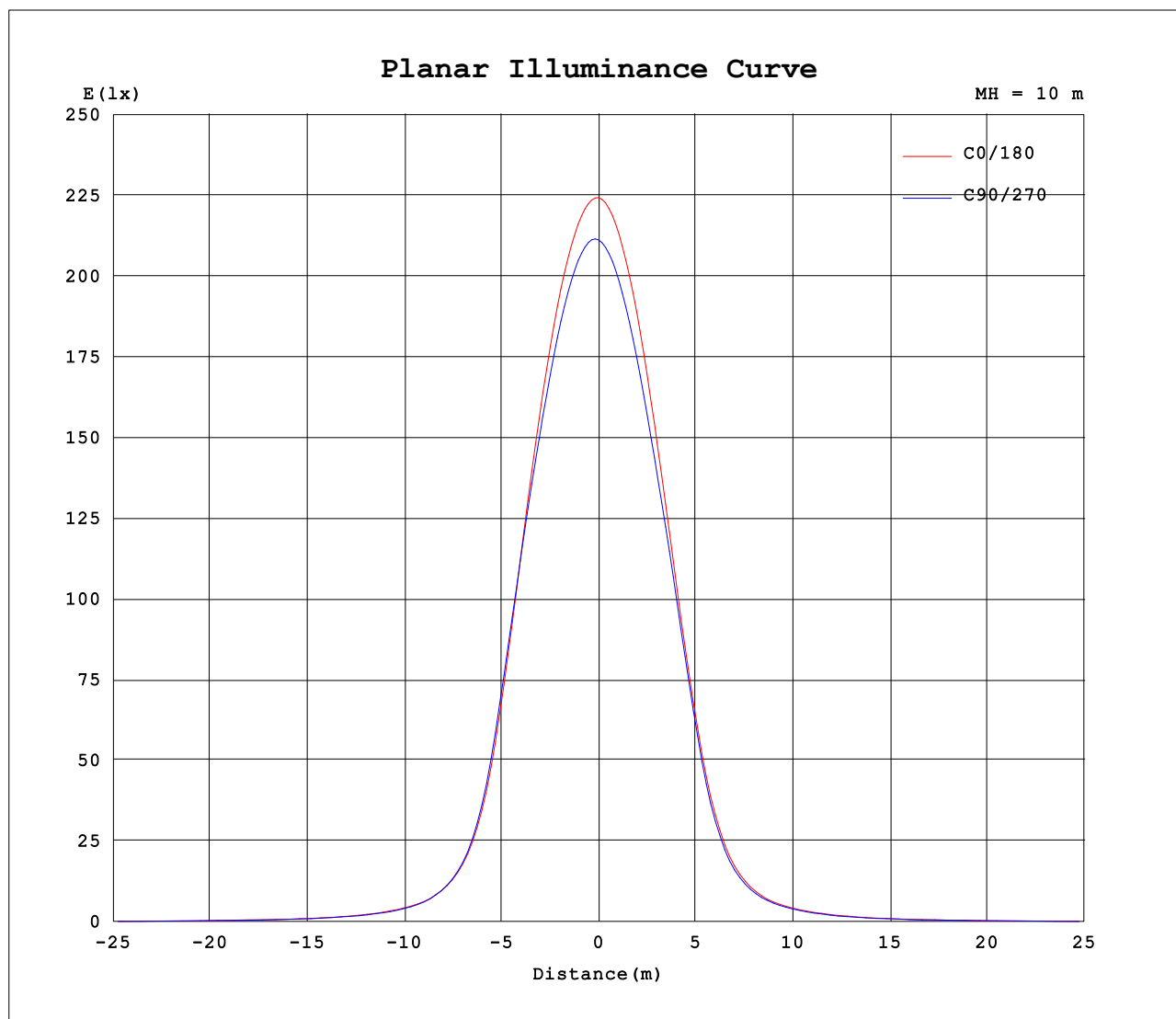
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: WJH
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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
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Humidity: 65.0%
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Assessor:

Planar Illuminance Curve



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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 9.350m [K=1.0000]
Remarks:

Checker: LI

Assessor: