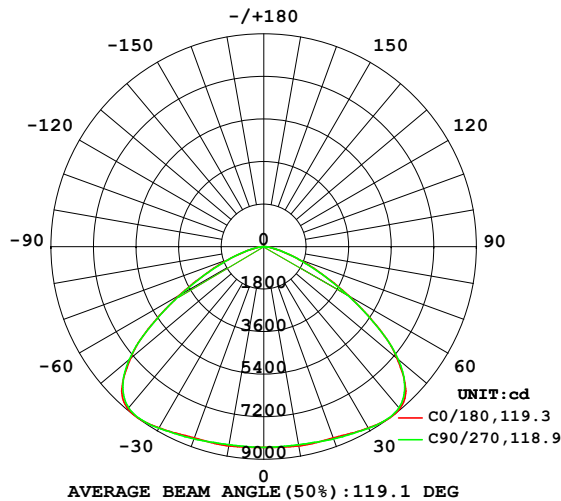


LUMINAIRE PHOTOMETRIC TEST REPORT

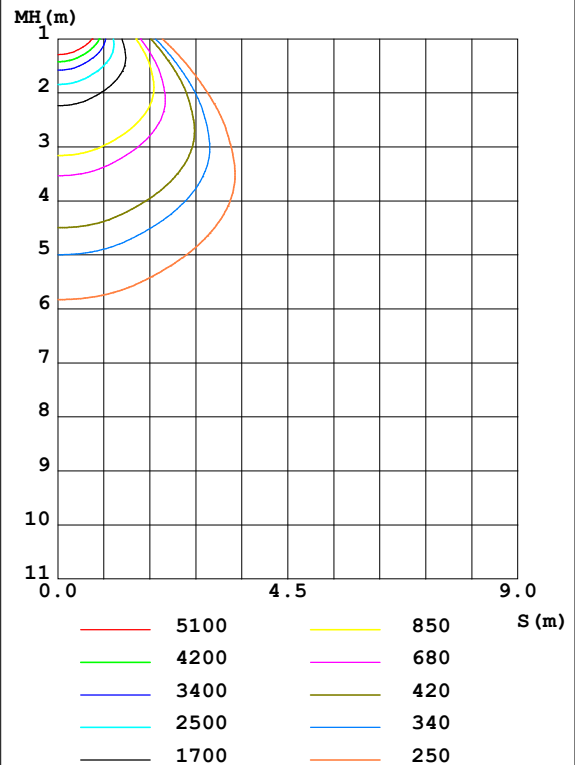
Test:U:230.3V I:0.6763A P:150.4W PF:0.9656 Lamp Flux:28249.5x1 lm		
NAME: 950-110_120°	TYPE:150W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:φ0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 187.87 lm/W			
MODEL	2835	I _{max} (cd)	9071	S/MH(C0/180)	1.61
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.61
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	28250	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	28249.5	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.55

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-01-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.470m [K=1.0000]
 Remarks:

Checker: LI

Assessor:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	8514	8494	8489	8506	8514	8506	8489	8494	0- 5	203.1	203.1	0.72,0.72
10	8558	8514	8508	8549	8558	8549	8508	8514	5- 10	609.4	812.5	2.88,2.88
15	8582	8551	8562	8593	8582	8593	8562	8551	10- 15	1015	1827	6.47,6.47
20	8613	8615	8654	8663	8613	8663	8654	8615	15- 20	1418	3245	11.5,11.5
25	8720	8694	8748	8781	8720	8781	8748	8694	20- 25	1822	5067	17.9,17.9
30	8859	8799	8871	8935	8859	8935	8871	8799	25- 30	2227	7295	25.8,25.8
35	8976	8907	8971	9057	8976	9057	8971	8907	30- 35	2630	9925	35.1,35.1
40	8953	8884	8902	9003	8953	9003	8902	8884	35- 40	2996	12921	45.7,45.7
45	8494	8459	8430	8471	8494	8471	8430	8459	40- 45	3238	16159	57.2,57.2
50	7357	7484	7424	7362	7357	7362	7424	7484	45- 50	3220	19379	68.6,68.6
55	5824	5872	5811	5740	5824	5740	5811	5872	50- 55	2892	22271	78.8,78.8
60	4129	4124	4070	4037	4129	4037	4070	4124	55- 60	2277	24548	86.9,86.9
65	2673	2657	2603	2592	2673	2592	2603	2657	60- 65	1619	26166	92.6,92.6
70	1583	1576	1541	1523	1583	1523	1541	1576	65- 70	1045	27212	96.3,96.3
75	821.5	821.7	809.1	793.0	821.5	793.0	809.1	821.7	70- 75	599.9	27811	98.4,98.4
80	360.7	364.1	359.8	352.1	360.7	352.1	359.8	364.1	75- 80	304.7	28116	99.5,99.5
85	96.35	96.08	93.96	93.30	96.35	93.30	93.96	96.08	80- 85	114.6	28231	99.9,99.9
90	8.445	8.457	8.366	8.318	8.445	8.318	8.366	8.457	85- 90	18.84	28250	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 16159 lm

%lum = 57.2%

%lamp = 57.2%

Conical surface Flux(120deg): 24548 lm

%lum = 86.9%

%lamp = 86.9%

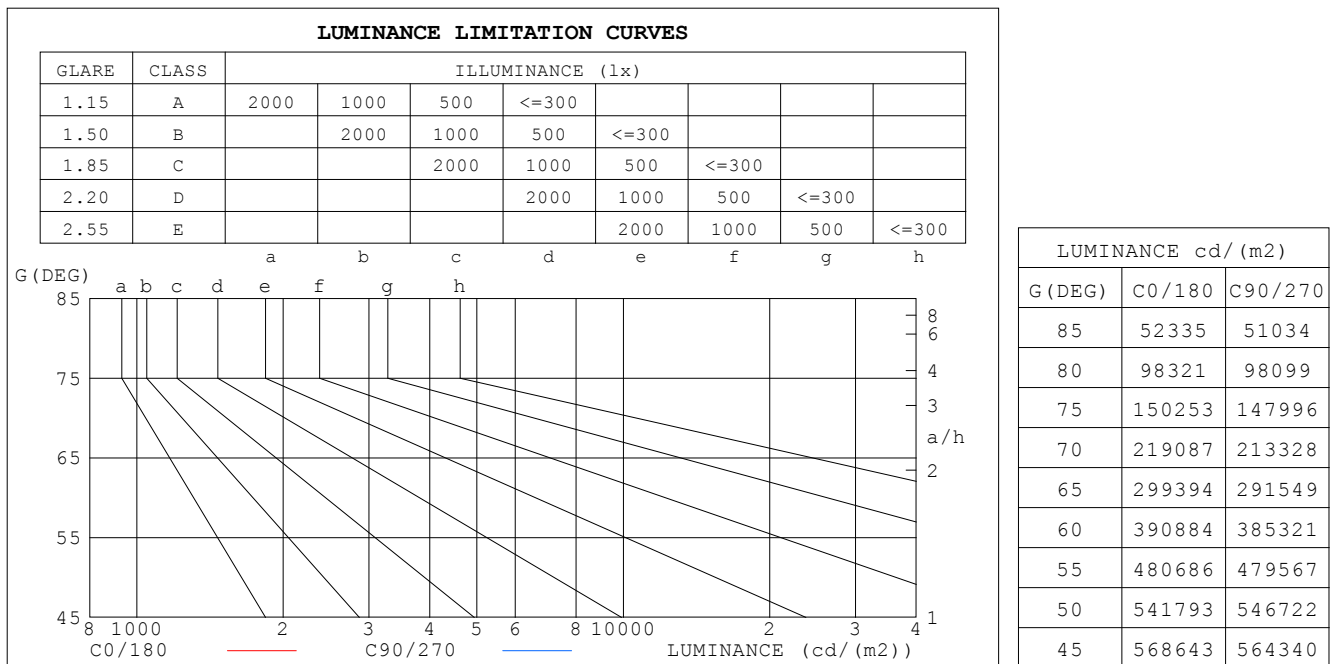
C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-01-05

Checker: LI

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.470m [K=1.0000]
 Remarks:

Assessor:

LUMINANCE LIMITATION CURVES



C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-01-05

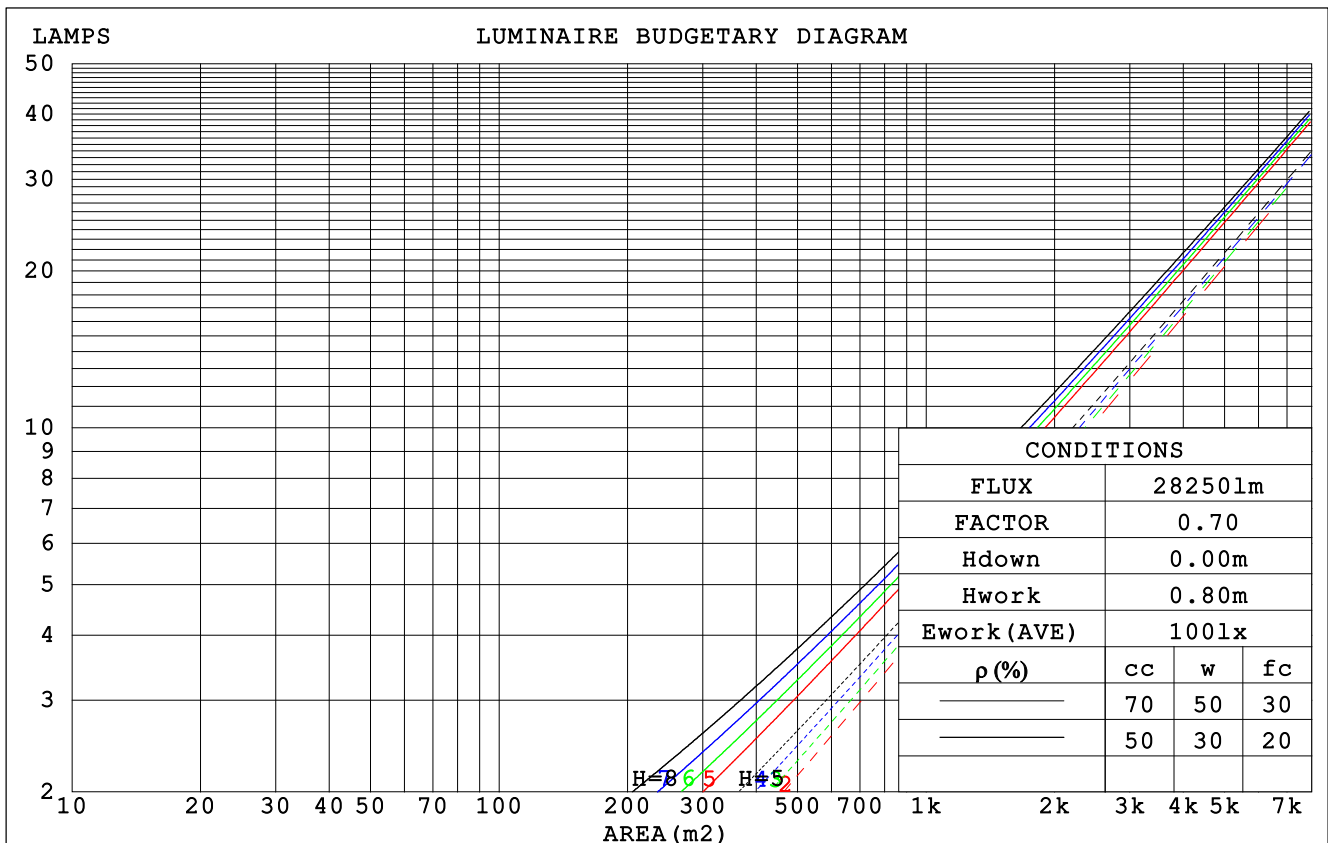
Checker: LI

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Assessor:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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			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	1.06	1.02	.98	1.03	.90	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.87	.81	.91	.85	.80	.88	.83	.78	.84	.80	.77	.81	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.69	.65	.72	.68	.64	.62
4.0	.72	.64	.58	.71	.63	.57	.69	.62	.56	.66	.60	.56	.64	.59	.55	.53
5.0	.65	.56	.49	.63	.55	.49	.61	.54	.49	.59	.53	.48	.58	.52	.48	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.54	.47	.42	.52	.46	.42	.39
7.0	.52	.44	.38	.51	.43	.37	.50	.43	.37	.48	.42	.37	.47	.41	.37	.35
8.0	.47	.39	.33	.47	.39	.33	.45	.38	.33	.44	.38	.33	.43	.37	.32	.31
9.0	.43	.35	.30	.43	.35	.30	.42	.34	.29	.41	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.26	.37	.31	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019-01-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=1.0000]
 Remarks:

Checker: LI

Assessor:

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	.275	.156	.049	.268	.153	.049	.255	.146	.047	.243	.140	.045	.232	.134	.043	
2.0	.268	.147	.045	.262	.144	.044	.250	.139	.043	.240	.135	.042	.230	.130	.041	
3.0	.254	.135	.040	.249	.133	.040	.238	.129	.039	.229	.126	.038	.220	.122	.038	
4.0	.238	.124	.036	.234	.122	.036	.225	.119	.036	.216	.116	.035	.208	.113	.035	
5.0	.223	.114	.033	.219	.112	.033	.211	.110	.032	.203	.107	.032	.196	.105	.032	
6.0	.209	.105	.030	.205	.104	.030	.198	.101	.030	.191	.099	.029	.185	.097	.029	
7.0	.196	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.170	.086	.025	.165	.084	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.076	.022	.152	.075	.021	.147	.074	.021	

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	.178	.156	.137	.152	.134	.118	.104	.092	.082	.060	.053	.047	.019	.017	.015	
2.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.099	.066	.095	.068	.047	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.127	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-01-05

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=1.0000]
Remarks:

Checker: LI

Assessor:

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	34.5	36.0	34.7	36.2	36.4	34.4	35.9	34.7	36.1	36.3
3H	35.0	36.3	35.3	36.6	36.8	34.9	36.2	35.2	36.5	36.7
4H	35.1	36.4	35.4	36.6	36.9	35.0	36.2	35.3	36.5	36.8
6H	35.1	36.3	35.4	36.5	36.8	35.0	36.2	35.3	36.4	36.7
8H	35.0	36.2	35.4	36.5	36.8	34.9	36.1	35.3	36.4	36.7
12H	35.0	36.1	35.3	36.4	36.7	34.9	36.0	35.2	36.3	36.6
4H 2H	34.7	36.0	35.1	36.3	36.5	34.7	36.0	35.0	36.2	36.5
3H	35.4	36.5	35.7	36.8	37.1	35.3	36.4	35.6	36.7	37.0
4H	35.5	36.5	35.9	36.8	37.2	35.4	36.4	35.8	36.7	37.1
6H	35.5	36.4	35.9	36.8	37.1	35.5	36.3	35.8	36.7	37.1
8H	35.5	36.4	35.9	36.7	37.1	35.4	36.3	35.9	36.6	37.0
12H	35.5	36.3	35.9	36.6	37.0	35.4	36.2	35.8	36.5	37.0
8H 4H	35.5	36.3	35.9	36.7	37.1	35.4	36.2	35.8	36.6	37.0
6H	35.6	36.3	36.0	36.7	37.1	35.5	36.2	35.9	36.6	37.0
8H	35.6	36.2	36.0	36.6	37.1	35.5	36.1	36.0	36.5	37.0
12H	35.6	36.1	36.1	36.5	37.0	35.5	36.0	36.0	36.4	36.9
12H 4H	35.5	36.2	35.9	36.6	37.0	35.4	36.1	35.8	36.5	36.9
6H	35.6	36.2	36.0	36.6	37.0	35.5	36.1	35.9	36.5	36.9
8H	35.6	36.1	36.1	36.5	37.0	35.5	36.0	36.0	36.4	36.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.5				
1.5H	+ 0.4 / - 1.0					+ 0.4 / - 1.0				
2.0H	+ 1.1 / - 1.2					+ 1.1 / - 1.3				

CIE Pub.117 Corrected 28250 lm Total Lamp Luminous Flux.(8log(F/F0) = 11.6)

C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-01-05

Checker: LI

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=1.0000]
Remarks:

Assessor:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	38	56	45	38	55	45	38	32
0.80	68	57	49	67	56	49	65	56	49	42
1.00	78	67	60	77	66	60	74	68	59	52
1.25	85	75	69	84	75	68	81	73	67	60
1.50	90	81	75	89	80	74	86	78	73	66
2.00	97	89	83	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	78
3.00	104	98	93	102	96	92	98	93	90	81
4.00	108	102	98	105	101	97	101	97	94	86
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

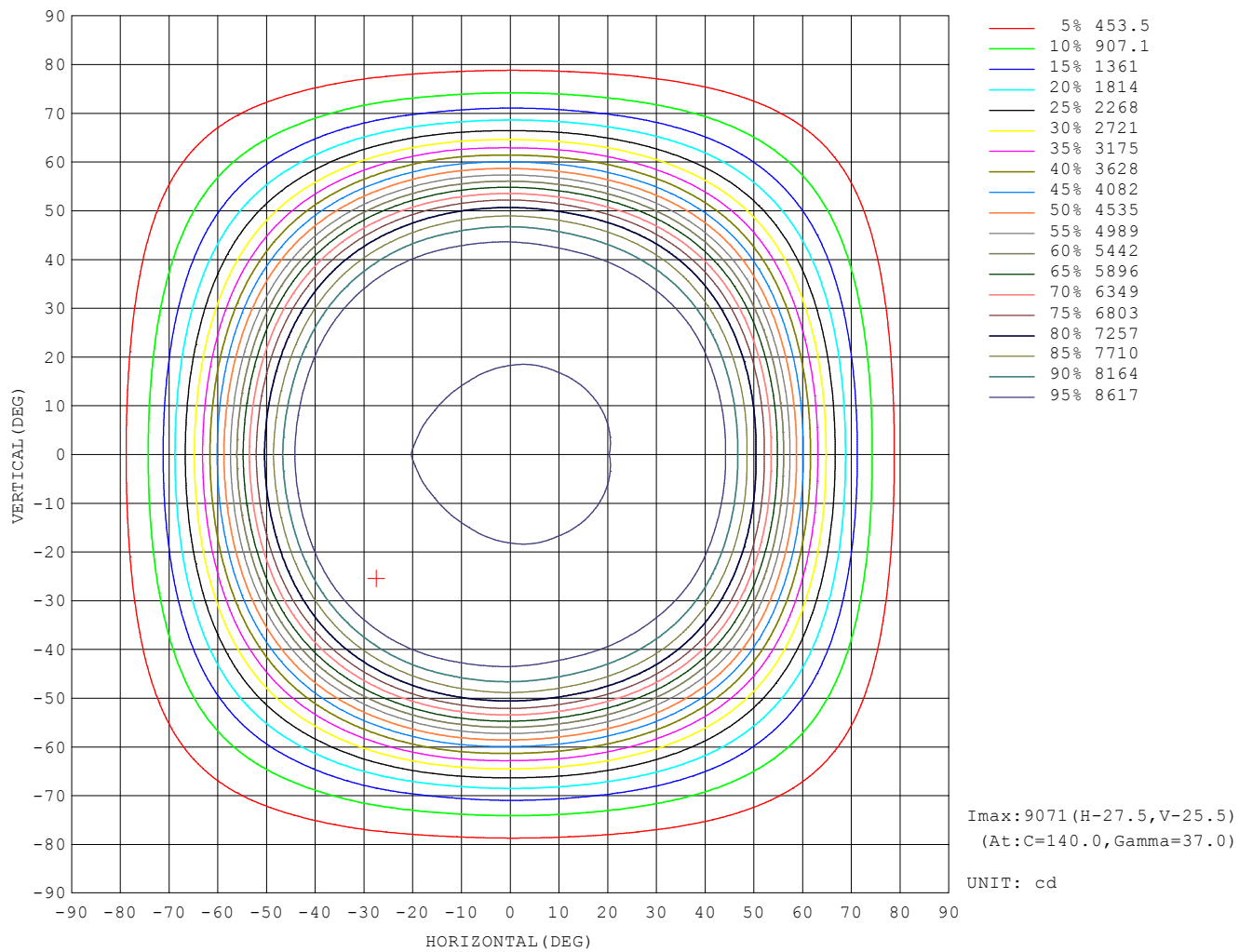
C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019-01-05

Checker: LI

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=1.0000]
 Remarks:

Assessor:

ISOCANDELA DIAGRAM



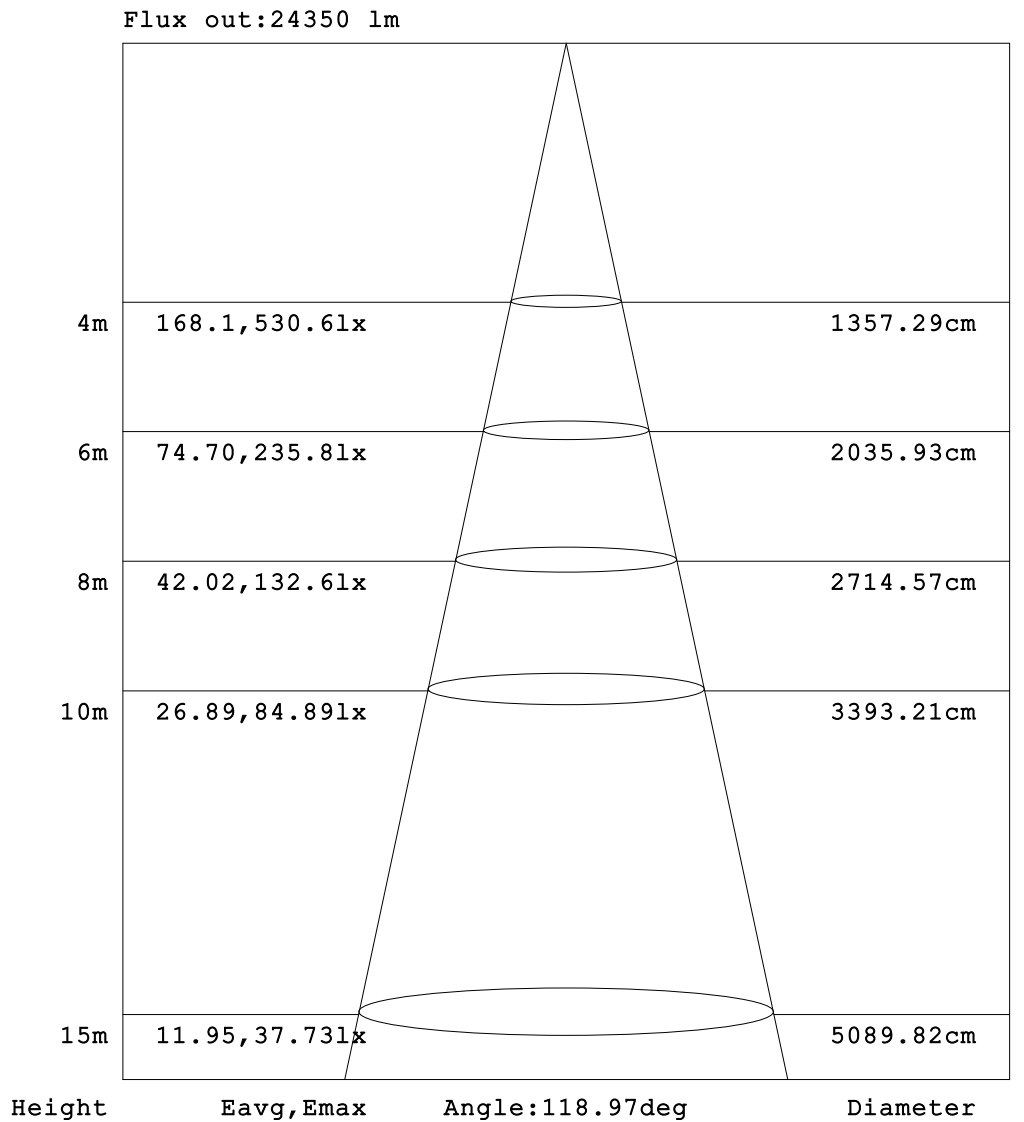
C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-01-05

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Checker: LI

Assessor:

AAI Figure



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

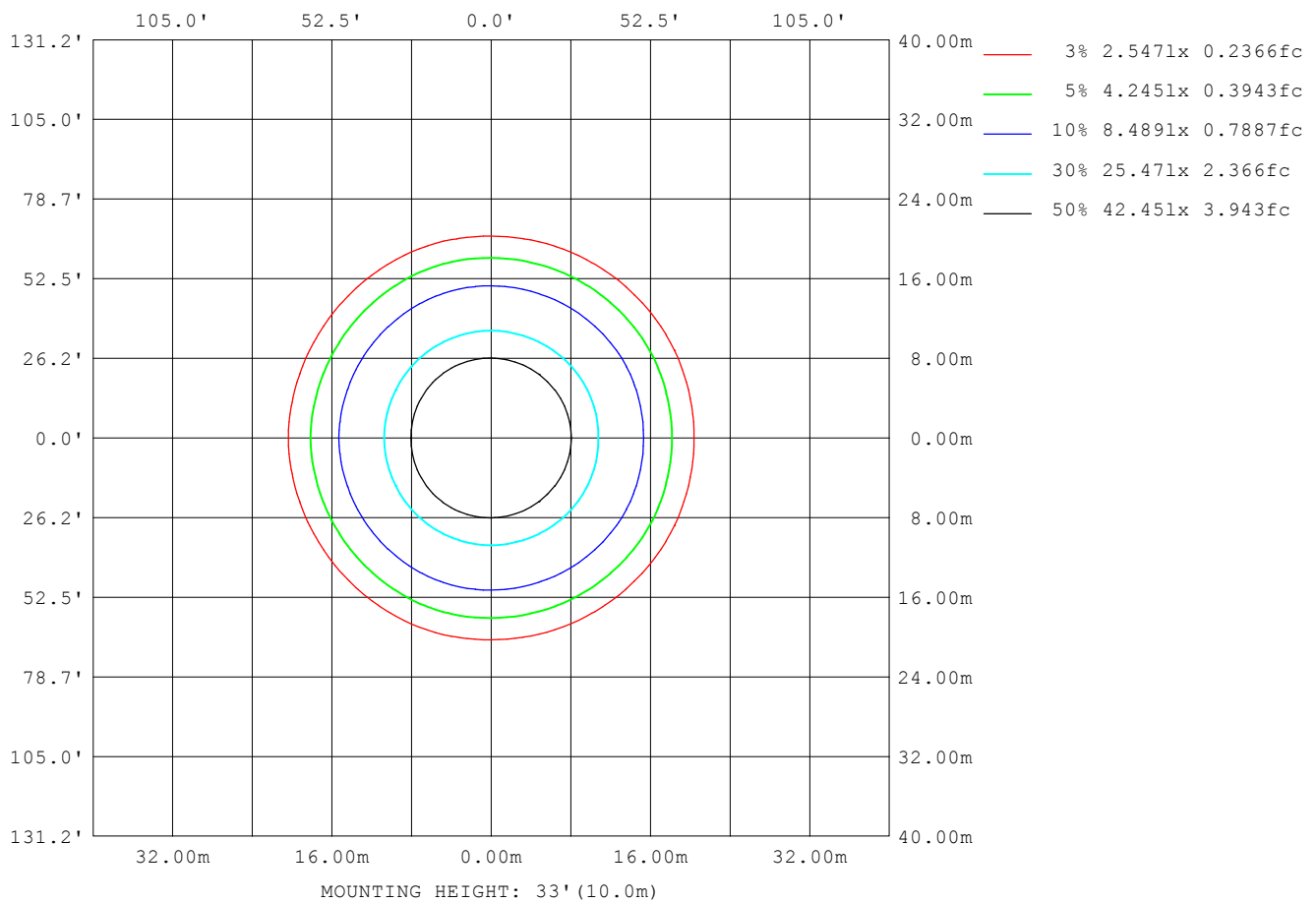
C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-01-05

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Checker: LI

Assessor:

ISOLUX DIAGRAM



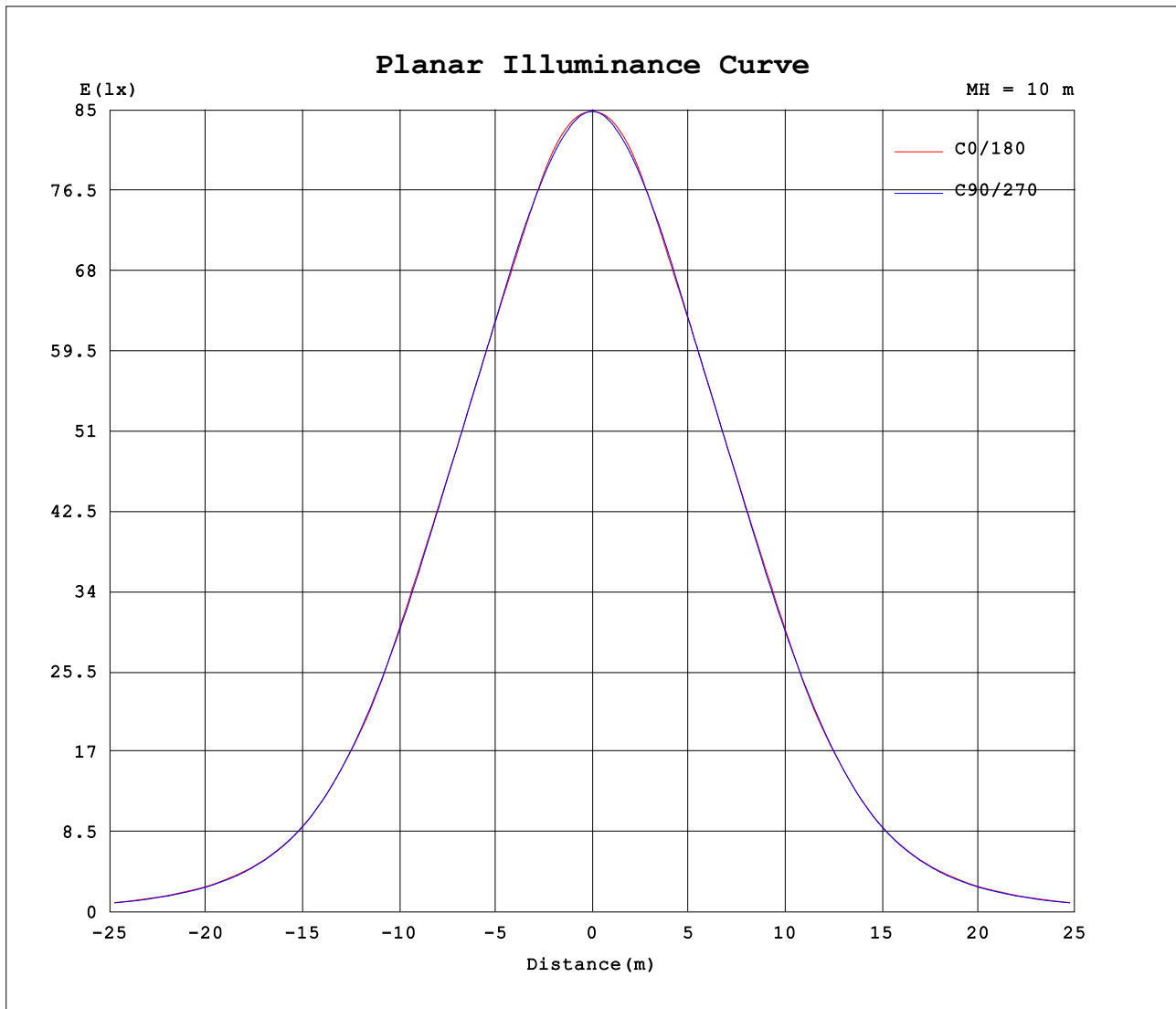
C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-01-05

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Checker: LI

Assessor:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-01-05

Checker: LI

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Assessor:

Assessor:

Assessor:

Assessor:

Assessor:

Assessor:

Assessor:

UNIT: cd

Assessor: