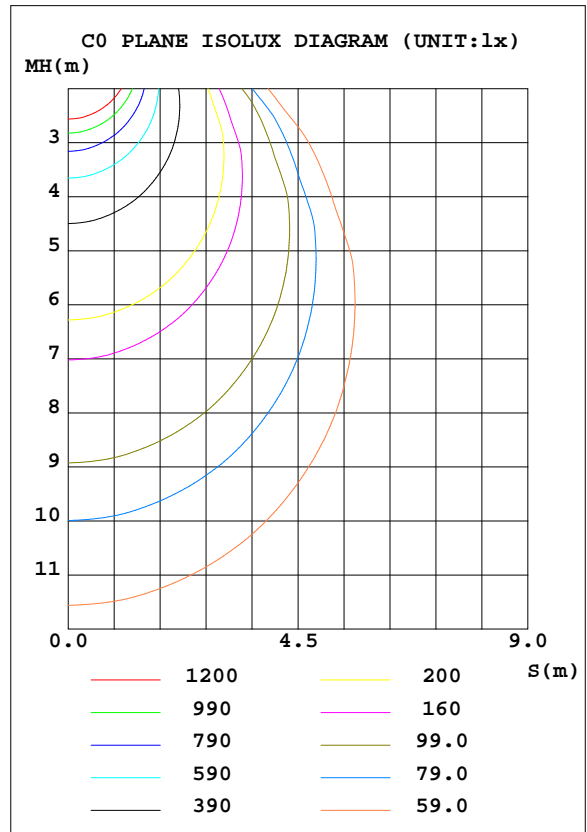
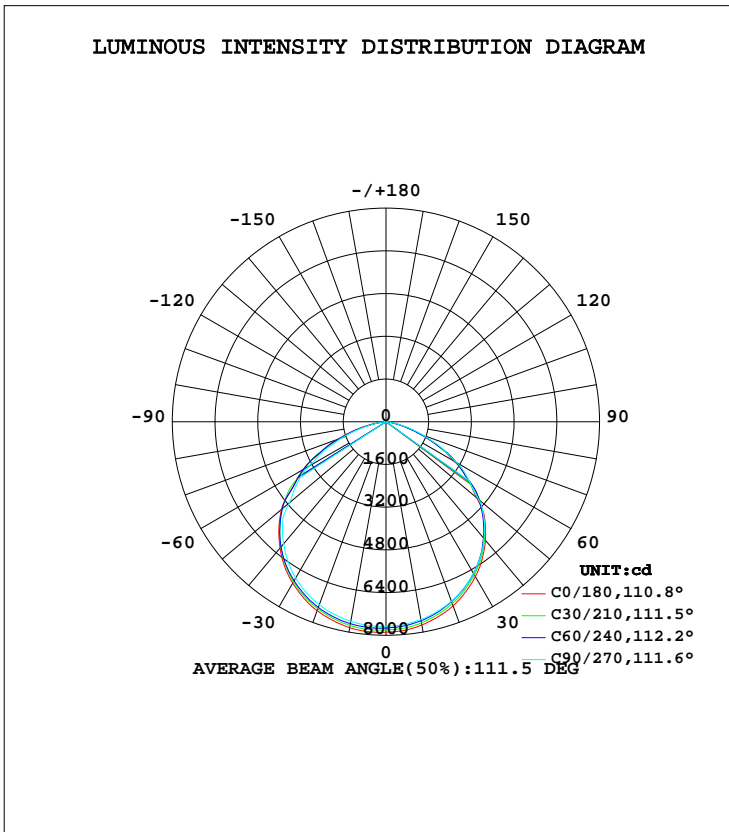


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 138.64 lm/W			
MODEL	F2139-150W	Imax(cd)	7893	S/MH(C0/180)	1.26
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	232	TOTAL FLUX(lm)	21591	η UP, DN(C0-180)	0.9,47.6
NOMINAL FLUX(lm)	21591.4	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.9,50.7
LAMPS INSIDE	1	η up(%)	1.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	232.1	η down(%)	98.2	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	7727	7608	7523	7482	7835	7714	7593	7487	0- 10	731.2	731.2	3.39,3.39
20	7341	7211	7157	7145	7531	7429	7298	7156	10- 20	2108	2839	13.1,13.1
30	6697	6586	6554	6577	6984	6905	6761	6596	20- 30	3232	6071	28.1,28.1
40	5794	5712	5712	5762	6172	6124	5965	5788	30- 40	3950	10021	46.4,46.4
50	4443	4578	4530	4681	5118	5069	4723	4727	40- 50	4123	14144	65.5,65.5
60	2938	3034	3077	3182	3585	3544	3323	3231	50- 60	3566	17710	82,82
70	1417	1366	1483	1551	1929	1859	1743	1550	60- 70	2401	20111	93.1,93.1
80	237.2	245.3	303.5	339.6	495.4	449.1	391.2	318.7	70- 80	973.7	21085	97.7,97.7
90	38.79	38.31	37.29	36.51	38.89	37.66	36.80	36.97	80- 90	127.2	21212	98.2,98.2
100	46.55	45.93	44.61	43.36	43.08	42.42	42.37	42.69	90-100	43.95	21256	98.4,98.4
110	54.98	54.01	52.84	51.24	50.93	49.93	49.73	50.24	100-110	50.50	21307	98.7,98.7
120	61.88	61.38	59.77	58.40	58.99	57.30	57.25	57.40	110-120	54.83	21361	98.9,98.9
130	68.85	68.74	66.88	65.68	66.82	64.72	64.57	64.66	120-130	56.07	21417	99.2,99.2
140	74.68	74.79	72.65	71.69	73.99	72.52	72.10	72.12	130-140	53.84	21471	99.4,99.4
150	81.50	81.09	79.22	77.54	81.70	79.75	79.38	79.04	140-150	47.88	21519	99.7,99.7
160	88.80	87.44	86.50	83.92	89.02	86.19	86.06	85.11	150-160	38.33	21558	99.8,99.8
170	94.17	92.54	91.60	89.09	94.07	91.40	90.71	89.58	160-170	25.20	21583	100,100
180	92.88	91.07	91.01	88.82	93.75	90.99	90.42	88.87	170-180	8.728	21591	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

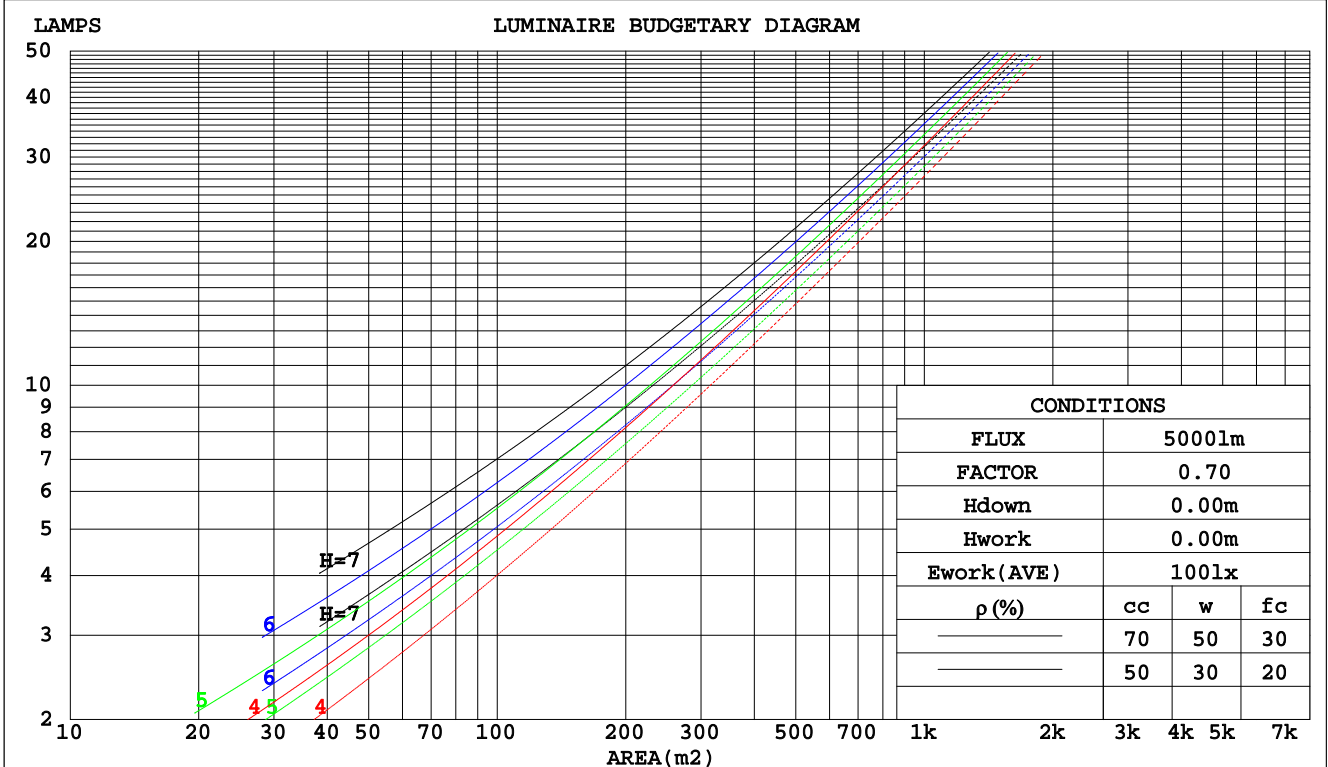
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc																0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	.98
1.0	1.05	1.01	.97	1.02	.99	.96	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.92	.86	.80	.90	.84	.79	.86	.81	.77	.83	.79	.75	.79	.76	.73	.71
3.0	.81	.73	.67	.79	.72	.66	.76	.70	.65	.73	.68	.64	.70	.66	.62	.60
4.0	.72	.63	.57	.71	.63	.56	.68	.61	.56	.65	.59	.55	.63	.58	.54	.52
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.52	.47	.57	.51	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.53	.47	.42	.51	.46	.41	.39
7.0	.52	.44	.38	.52	.43	.38	.50	.43	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.48	.39	.34	.47	.39	.34	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.29	.28
10.0	.40	.33	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7312]
 Remarks:

WEC AND CCEC

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.282	.160	.051	.274	.157	.050	.260	.149	.048	.247	.143	.046	.235	.136	.044	
2.0	.273	.149	.046	.266	.146	.045	.253	.141	.044	.242	.136	.042	.231	.131	.041	
3.0	.256	.136	.041	.250	.134	.040	.239	.130	.039	.229	.126	.039	.220	.122	.038	
4.0	.239	.124	.037	.234	.122	.036	.224	.119	.035	.215	.115	.035	.206	.112	.034	
5.0	.223	.113	.033	.218	.112	.033	.209	.109	.032	.201	.106	.032	.193	.103	.031	
6.0	.208	.104	.030	.203	.103	.030	.196	.100	.029	.188	.098	.029	.181	.096	.028	
7.0	.194	.096	.027	.190	.095	.027	.183	.093	.027	.177	.091	.026	.170	.089	.026	
8.0	.182	.089	.025	.179	.088	.025	.172	.086	.025	.166	.084	.024	.161	.082	.024	
9.0	.171	.083	.023	.168	.082	.023	.162	.080	.023	.157	.079	.022	.152	.077	.022	
10.0	.161	.077	.021	.158	.076	.021	.153	.075	.021	.148	.074	.021	.144	.072	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.204	.204	.204	.174	.174	.174	.119	.119	.119	.068	.068	.068	.022	.022	.022	
1.0	.192	.170	.150	.164	.146	.129	.112	.100	.089	.065	.058	.052	.021	.019	.017	
2.0	.183	.146	.114	.157	.125	.098	.108	.087	.069	.062	.050	.040	.020	.016	.013	
3.0	.175	.128	.090	.150	.110	.078	.103	.077	.055	.060	.045	.032	.019	.015	.011	
4.0	.168	.114	.074	.144	.099	.064	.099	.069	.045	.057	.040	.027	.018	.013	.009	
5.0	.161	.104	.062	.138	.090	.054	.095	.063	.038	.055	.037	.023	.018	.012	.007	
6.0	.154	.096	.054	.132	.083	.047	.091	.058	.033	.053	.034	.020	.017	.011	.007	
7.0	.147	.089	.048	.127	.077	.042	.088	.054	.029	.051	.032	.018	.016	.010	.006	
8.0	.141	.083	.043	.122	.072	.038	.084	.051	.027	.049	.030	.016	.016	.010	.005	
9.0	.135	.078	.039	.117	.068	.034	.081	.048	.024	.047	.028	.015	.015	.009	.005	
10.0	.130	.074	.037	.112	.064	.032	.078	.045	.023	.045	.027	.014	.015	.009	.004	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

Uncorrected UGR Table

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm										
NAME: F2139-150W					TYPE:			WEIGHT:		
DIM.:					SPEC.:			SERIAL No.:		
MFR.:					SUR.:0.18*0.19			PROTECTION ANGLE:		
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	30.9	32.3	31.2	32.6	32.8	30.9	32.4	31.2	32.6	32.9
3H	31.8	33.1	32.1	33.4	33.7	31.9	33.2	32.2	33.5	33.8
4H	32.0	33.3	32.3	33.5	33.8	32.1	33.4	32.4	33.6	33.9
6H	32.0	33.2	32.4	33.5	33.8	32.1	33.3	32.5	33.6	33.9
8H	32.0	33.1	32.3	33.4	33.7	32.1	33.2	32.5	33.6	33.9
12H	31.9	33.0	32.3	33.3	33.7	32.1	33.2	32.4	33.5	33.8
4H 2H	31.3	32.6	31.7	32.9	33.2	31.4	32.6	31.7	32.9	33.2
3H	32.4	33.5	32.7	33.8	34.1	32.4	33.5	32.8	33.8	34.2
4H	32.6	33.6	33.0	34.0	34.3	32.7	33.7	33.1	34.0	34.4
6H	32.6	33.5	33.1	33.9	34.3	32.8	33.6	33.2	34.0	34.4
8H	32.6	33.4	33.1	33.8	34.2	32.7	33.6	33.2	34.0	34.4
12H	32.6	33.3	33.0	33.7	34.2	32.7	33.5	33.2	33.9	34.3
8H 4H	32.6	33.5	33.1	33.8	34.3	32.7	33.5	33.1	33.9	34.3
6H	32.7	33.4	33.2	33.8	34.3	32.8	33.5	33.3	33.9	34.4
8H	32.7	33.3	33.2	33.7	34.2	32.8	33.4	33.3	33.9	34.3
12H	32.7	33.2	33.2	33.6	34.2	32.8	33.3	33.3	33.8	34.3
12H 4H	32.6	33.3	33.1	33.8	34.2	32.7	33.4	33.1	33.8	34.3
6H	32.7	33.3	33.2	33.7	34.2	32.8	33.4	33.3	33.8	34.3
8H	32.7	33.2	33.2	33.7	34.2	32.8	33.3	33.3	33.8	34.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4				
1.5H	+ 0.2 / - 0.5					+ 0.3 / - 0.5				
2.0H	+ 0.5 / - 0.6					+ 0.5 / - 0.5				

CIE Pub.117 Corrected 21591 lm Total Lamp Luminous Flux. (8log(F/F0) = 10.7)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:

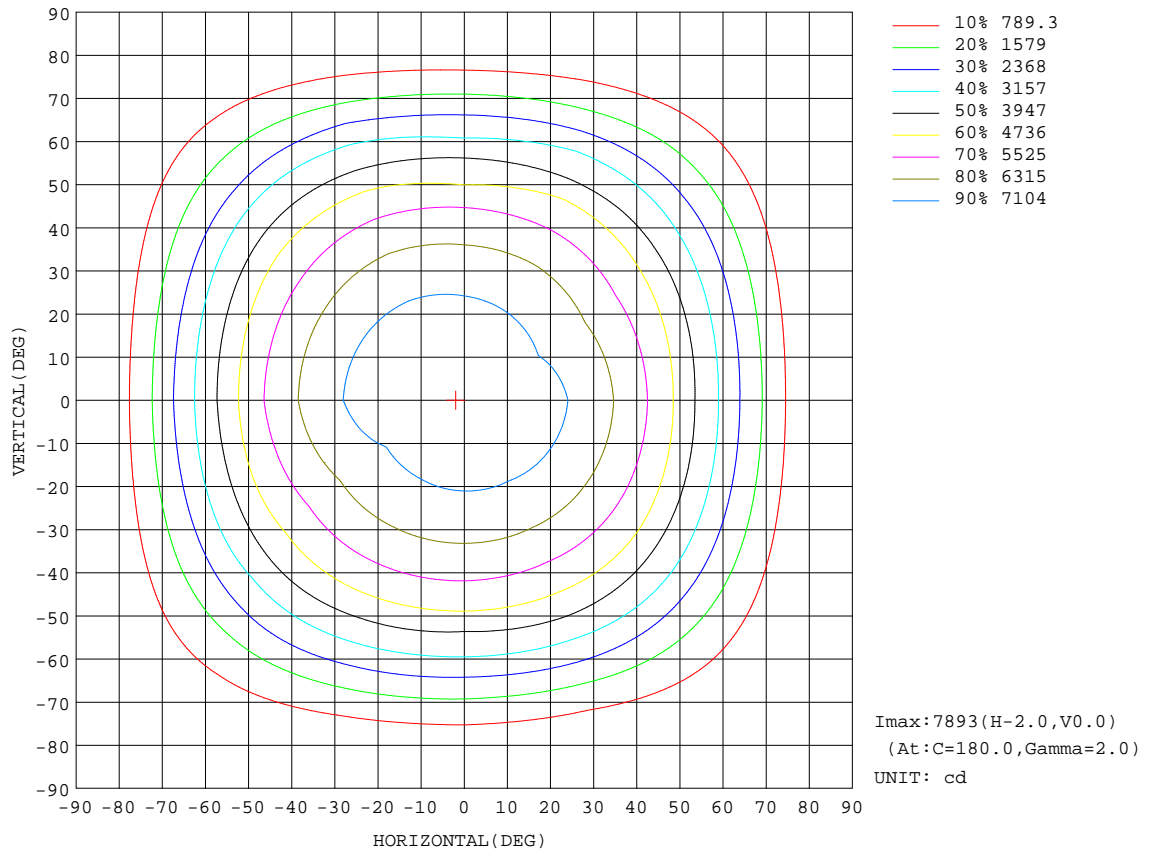
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	57	46	40	56	46	40	33
0.80	69	57	50	67	57	50	66	56	49	43
1.00	77	67	59	76	66	59	74	67	59	51
1.25	84	74	68	83	74	67	80	72	66	59
1.50	89	80	73	88	79	73	85	77	72	64
2.00	96	88	82	94	87	81	91	84	80	72
2.50	100	93	87	98	91	86	94	88	84	75
3.00	103	97	92	101	95	90	97	92	88	79
4.00	107	102	97	104	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:

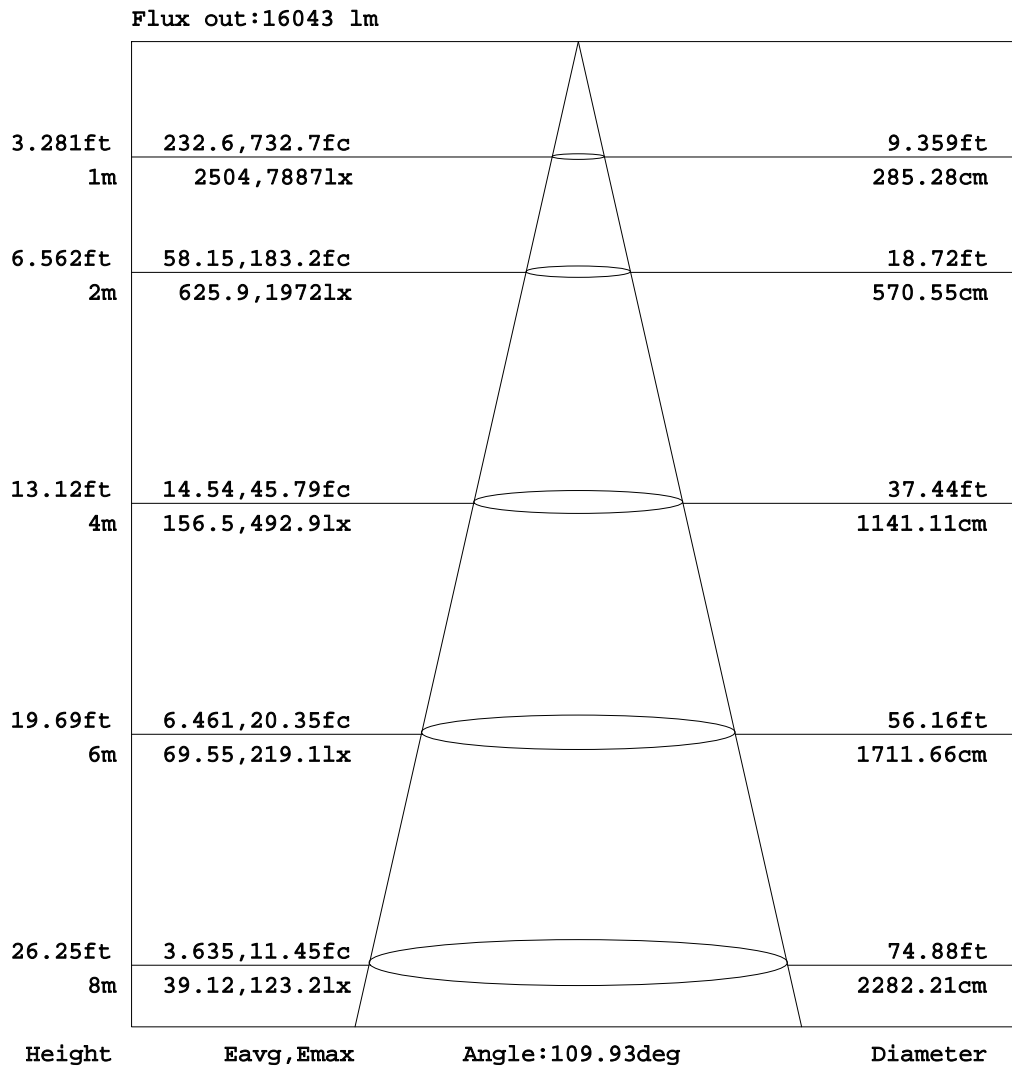


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

AAI Figure

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:



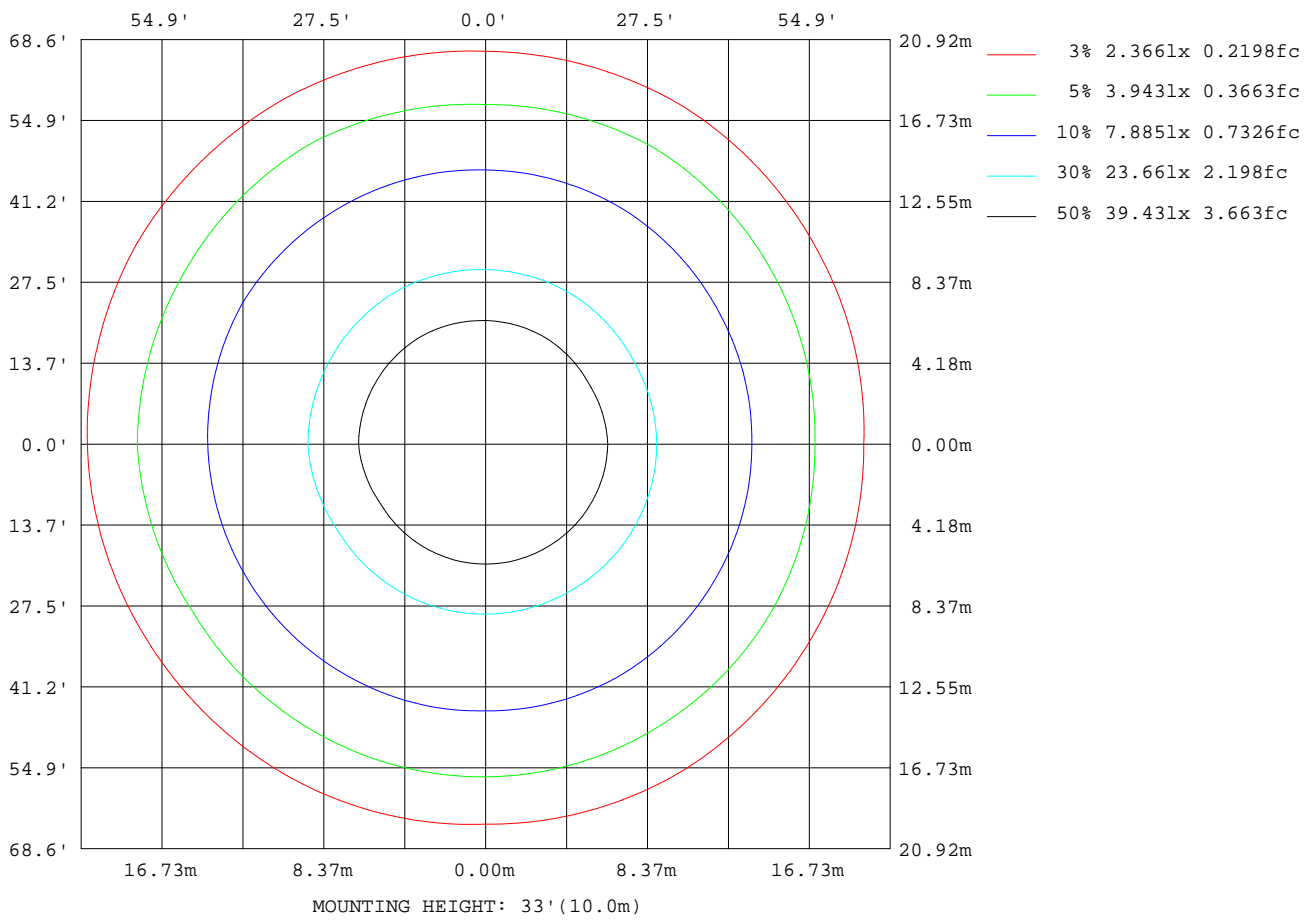
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

ISOLUX DIAGRAM

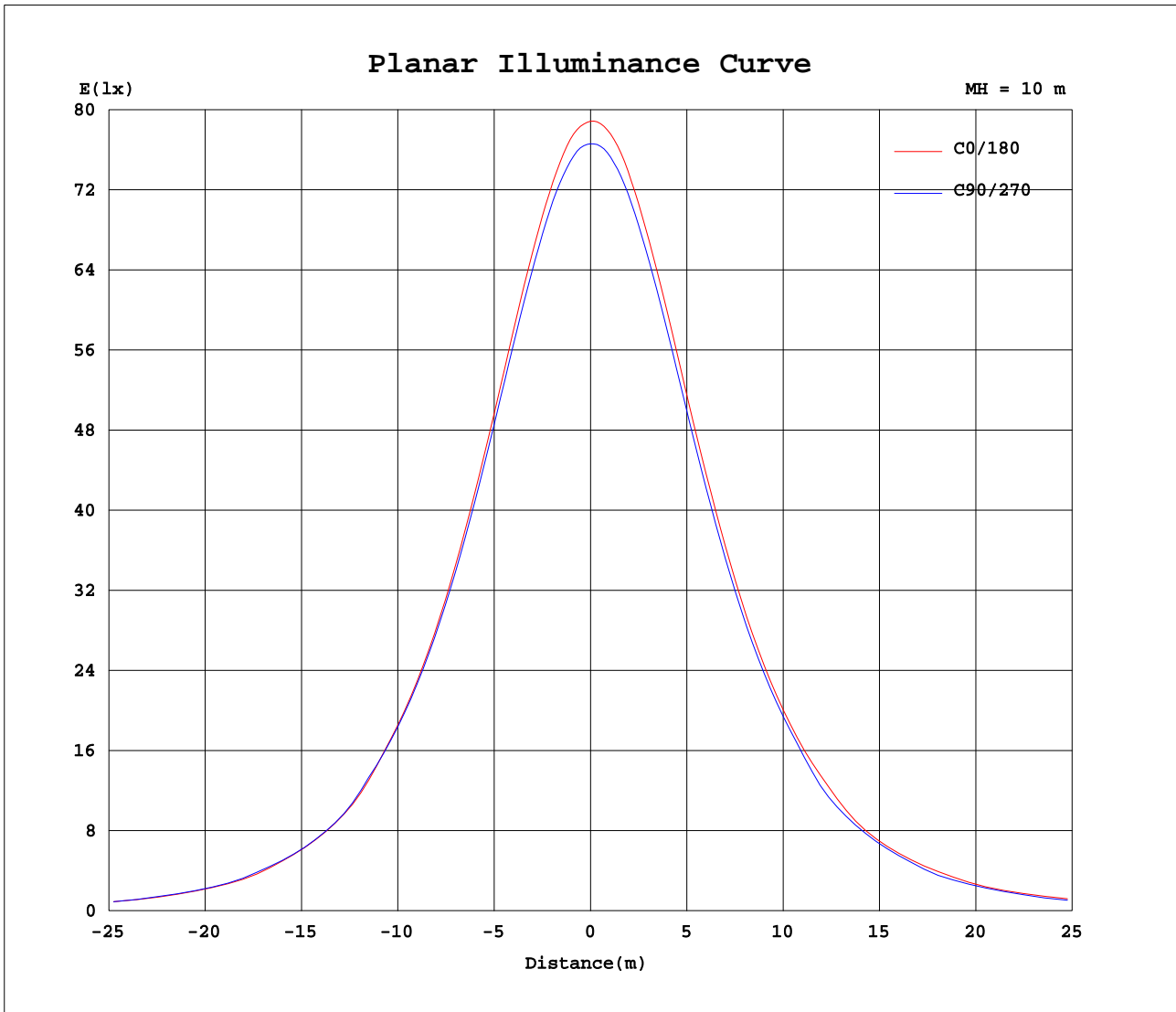
Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7312]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:232.1V I:0.6953A P:155.7W PF:0.9651 Lamp Flux:21591.4x1 lm		
NAME: F2139-150W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.18*0.19	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	7885	7801	7725	7660	7606	7562	7885	7801	7725	7660	7606	7562							
5	7847	7761	7679	7624	7582	7549	7887	7809	7736	7658	7595	7536							
10	7727	7647	7568	7523	7491	7473	7835	7749	7679	7593	7524	7450							
15	7560	7474	7400	7360	7342	7334	7702	7628	7570	7468	7400	7301							
20	7341	7250	7172	7157	7142	7149	7531	7455	7403	7298	7210	7102							
25	7044	6967	6897	6888	6880	6906	7291	7225	7171	7062	6968	6847							
30	6697	6617	6556	6554	6558	6596	6984	6928	6882	6761	6669	6524							
35	6282	6217	6158	6164	6178	6223	6620	6561	6537	6395	6312	6148							
40	5794	5741	5684	5712	5737	5787	6172	6129	6120	5965	5877	5698							
45	5243	5191	5144	5197	5217	5277	5675	5622	5626	5492	5371	5191							
50	4443	4593	4563	4530	4643	4718	5118	5062	5075	4723	4831	4622							
55	3752	3711	3745	3775	3859	4062	4244	4417	4237	4091	3986	3791							
60	2938	3033	3034	3077	3138	3226	3585	3531	3558	3323	3334	3128							
65	2204	2174	2169	2263	2315	2484	2709	2789	2697	2562	2475	2290							
70	1417	1390	1343	1483	1477	1625	1929	1854	1865	1743	1607	1492							
75	715	726	703	826	823	906	1185	1057	1095	1006	907	811							
80	237	243	247	303	313	366	495	447	452	391	359	278							
85	53.7	58.0	62.2	68.0	71.6	79.4	125	94.9	96.7	70.3	71.4	63.5							
90	38.8	38.5	38.1	37.3	36.8	36.2	38.9	37.7	37.6	36.8	36.9	37.0							
95	42.3	42.0	41.5	40.6	39.9	39.0	39.8	39.4	39.1	39.2	39.4	39.6							
100	46.6	46.2	45.6	44.6	43.8	42.9	43.1	42.5	42.3	42.4	42.6	42.8							
105	51.1	50.6	49.9	49.0	48.1	47.0	46.9	46.3	45.9	46.0	46.3	46.6							
110	55.0	54.4	53.7	52.8	51.7	50.7	50.9	50.1	49.8	49.7	50.1	50.4							
115	58.7	58.1	57.2	56.6	55.3	54.3	54.9	53.9	53.4	53.6	53.7	54.0							
120	61.9	61.8	61.0	59.8	58.9	57.9	59.0	57.6	57.0	57.2	57.3	57.5							
125	65.5	65.5	64.8	63.3	62.6	61.4	62.9	61.3	60.7	60.9	61.0	61.0							
130	68.8	69.1	68.4	66.9	66.3	65.1	66.8	64.9	64.6	64.6	64.6	64.7							
135	71.9	72.2	71.5	69.9	69.4	68.2	70.2	68.7	68.5	68.3	68.4	68.4							
140	74.7	75.3	74.3	72.7	72.3	71.1	74.0	72.5	72.5	72.1	72.1	72.1							
145	77.9	78.6	77.3	75.8	75.3	74.1	77.8	76.2	76.3	75.8	75.8	75.7							
150	81.5	81.9	80.3	79.2	78.3	76.8	81.7	79.5	80.0	79.4	78.9	79.1							
155	85.2	85.3	82.8	83.0	81.5	79.6	85.4	82.6	83.4	82.8	81.9	82.3							
160	88.8	88.6	86.2	86.5	84.7	83.2	89.0	85.8	86.6	86.1	85.0	85.3							
165	91.9	91.5	89.1	89.4	87.4	86.3	92.3	89.4	89.7	89.1	88.2	88.0							
170	94.2	93.6	91.5	91.6	89.5	88.7	94.1	91.3	91.5	90.7	89.9	89.3							
175	94.0	93.3	91.1	91.5	89.5	88.9	94.4	91.8	91.6	91.1	90.1	89.3							
180	92.9	92.0	90.1	91.0	88.9	88.7	93.8	91.3	90.7	90.4	89.4	88.3							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks: