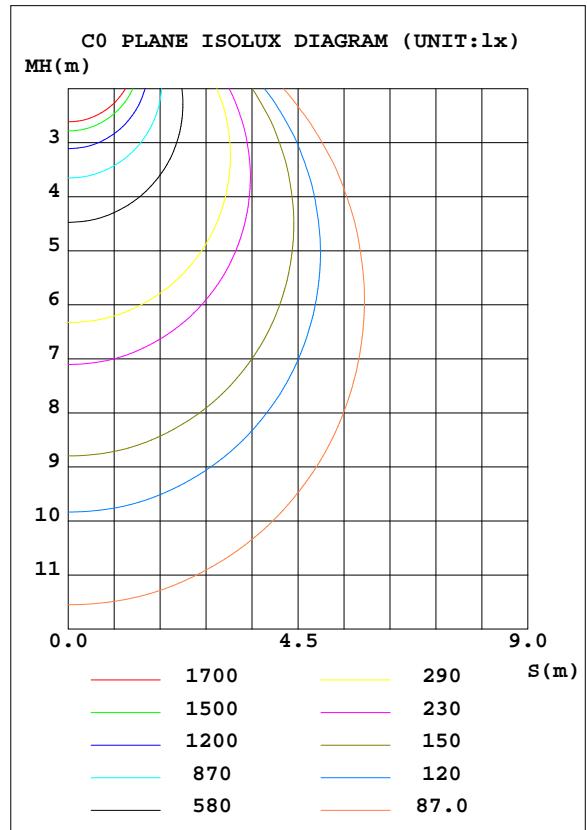
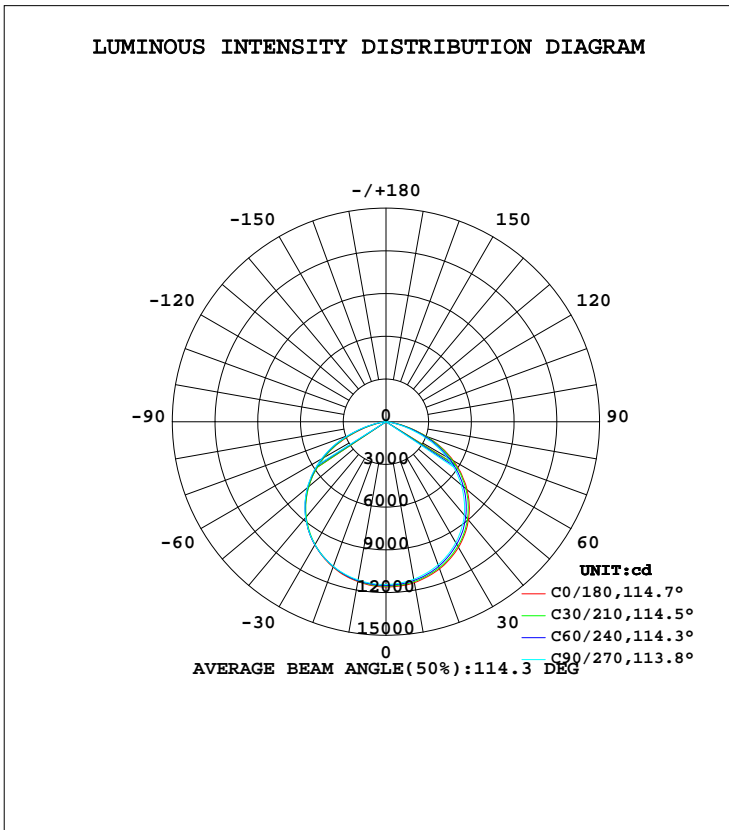


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.94 lm/W			
MODEL	F2146-250W	Imax(cd)	11604	S/MH(C0/180)	1.30
NOMINAL POWER(W)	250	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	32952	η UP, DN(C0-180)	0.9,48.5
NOMINAL FLUX(lm)	32952	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.9,49.8
LAMPS INSIDE	1	η up(%)	1.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	98.3	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	1147	1136	1123	1115	1140	1135	1128	1126	0- 10	1087	1087	3.3,3.3
20	1100	1086	1069	1059	1087	1083	1081	1081	10- 20	3132	4219	12.8,12.8
30	1019	1001	980.5	969.2	998.3	997.6	997.7	1003	20- 30	4801	9020	27.4,27.4
40	900.5	880.9	855.9	842.5	875.2	875.1	878.4	890.2	30- 40	5875	14894	45.2,45.2
50	743.2	721.5	690.5	675.9	711.5	712.3	720.5	739.5	40- 50	6153	21048	63.9,63.9
60	544.6	523.2	488.6	470.4	501.6	510.5	525.4	548.7	50- 60	5516	26564	80.6,80.6
70	299.9	288.7	248.5	230.1	248.7	267.6	286.3	322.5	60- 70	3934	30497	92.6,92.6
80	72.55	64.79	46.26	35.40	45.15	53.98	67.69	87.09	70- 80	1670	32167	97.6,97.6
90	5.875	5.806	5.745	5.767	5.905	5.783	5.777	5.928	80- 90	213.1	32380	98.3,98.3
100	6.814	6.847	6.888	6.893	6.851	6.645	6.462	6.377	90-100	67.46	32448	98.5,98.5
110	7.944	7.966	8.058	8.041	7.993	7.731	7.516	7.469	100-110	77.04	32525	98.7,98.7
120	8.926	9.027	9.080	9.059	9.024	8.726	8.559	8.491	110-120	82.76	32608	99,99
130	9.866	10.05	10.05	10.08	10.03	9.794	9.594	9.537	120-130	83.82	32692	99.2,99.2
140	10.83	11.04	11.00	11.05	11.22	10.95	10.74	10.69	130-140	80.44	32772	99.5,99.5
150	11.87	11.99	11.99	11.88	12.33	12.01	11.82	11.75	140-150	71.76	32844	99.7,99.7
160	13.10	13.04	13.08	12.84	13.25	12.98	12.93	12.75	150-160	57.41	32901	99.8,99.8
170	13.90	13.76	13.74	13.50	13.87	13.67	13.57	13.46	160-170	37.80	32939	100,100
180	13.73	13.55	13.56	13.34	13.78	13.55	13.50	13.35	170-180	13.03	32952	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

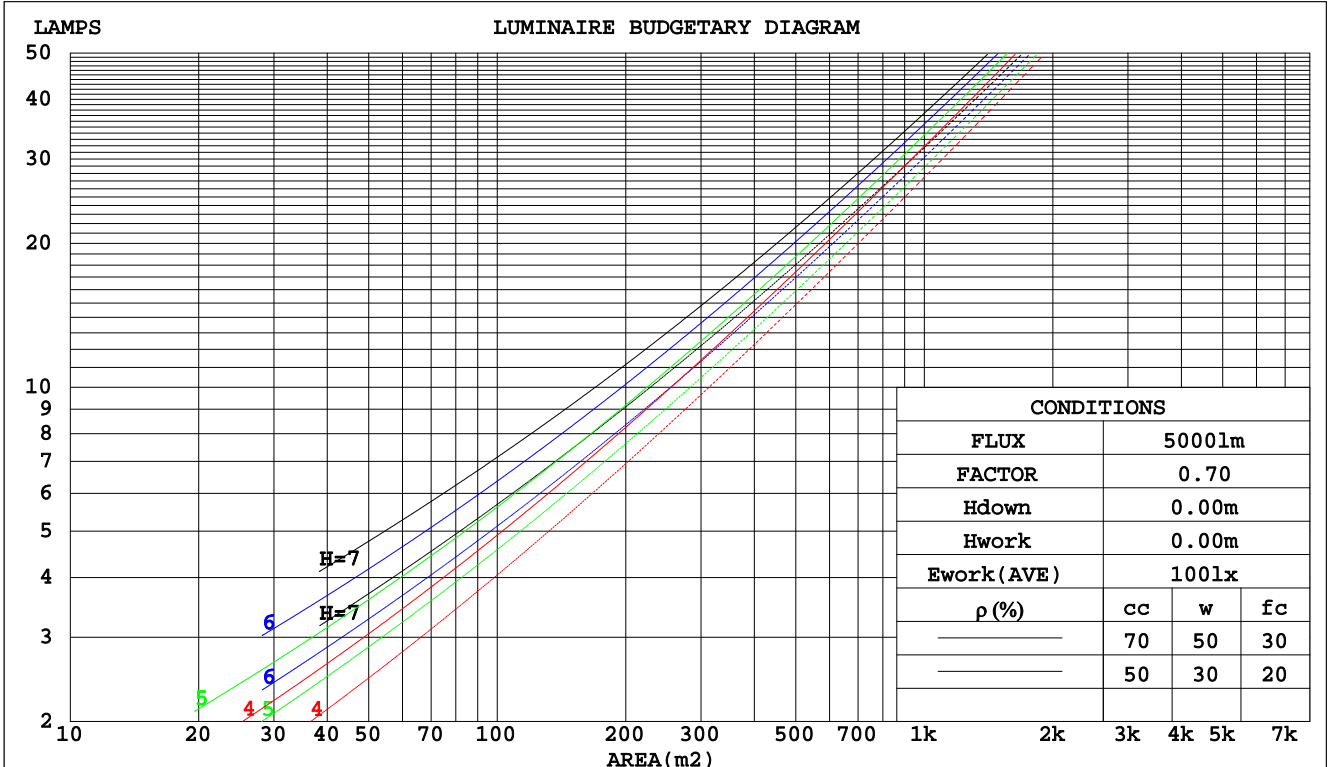
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

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:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	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	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	1.10	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	.95	.98	.95	.92	.93	.91	.89	.90	.88	.86	.84
2.0	.92	.85	.79	.89	.83	.78	.86	.81	.76	.82	.78	.74	.79	.75	.72	.70
3.0	.80	.73	.66	.79	.71	.65	.76	.69	.64	.73	.67	.63	.70	.65	.62	.59
4.0	.71	.63	.56	.70	.62	.56	.67	.60	.55	.65	.59	.54	.62	.57	.53	.51
5.0	.64	.55	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.50	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.52	.46	.41	.51	.45	.40	.38
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.36	.48	.41	.36	.46	.40	.36	.34
8.0	.47	.39	.33	.46	.38	.33	.45	.38	.33	.44	.37	.32	.42	.36	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.36	.30	.26	.24



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:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	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	.288	.164	.052	.280	.160	.051	.266	.153	.049	.253	.146	.047	.241	.140	.045	
2.0	.278	.152	.047	.271	.149	.046	.258	.144	.045	.247	.139	.043	.236	.134	.042	
3.0	.260	.139	.041	.254	.136	.041	.243	.132	.040	.233	.128	.039	.224	.124	.038	
4.0	.242	.126	.037	.237	.124	.037	.227	.120	.036	.218	.117	.035	.210	.114	.035	
5.0	.225	.115	.033	.221	.113	.033	.212	.110	.032	.204	.107	.032	.196	.105	.031	
6.0	.210	.105	.030	.206	.104	.030	.198	.101	.029	.190	.099	.029	.183	.097	.029	
7.0	.196	.097	.027	.192	.096	.027	.185	.094	.027	.178	.091	.027	.172	.089	.026	
8.0	.183	.090	.025	.180	.089	.025	.174	.087	.025	.168	.085	.024	.162	.083	.024	
9.0	.172	.083	.023	.169	.082	.023	.163	.081	.023	.158	.079	.023	.153	.078	.022	
10.0	.162	.078	.022	.159	.077	.021	.154	.075	.021	.149	.074	.021	.145	.073	.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	.149	.164	.146	.129	.112	.100	.089	.065	.058	.052	.021	.019	.017	
2.0	.184	.145	.113	.157	.125	.098	.108	.087	.068	.062	.050	.040	.020	.016	.013	
3.0	.176	.128	.089	.151	.110	.077	.104	.077	.054	.060	.045	.032	.019	.015	.010	
4.0	.169	.114	.073	.145	.099	.063	.100	.069	.045	.058	.040	.026	.019	.013	.009	
5.0	.162	.104	.062	.139	.090	.054	.096	.063	.038	.055	.037	.022	.018	.012	.007	
6.0	.155	.096	.053	.133	.083	.046	.092	.058	.033	.053	.034	.020	.017	.011	.006	
7.0	.148	.089	.047	.127	.077	.041	.088	.054	.029	.051	.032	.017	.017	.010	.006	
8.0	.142	.083	.043	.122	.072	.037	.084	.051	.026	.049	.030	.016	.016	.010	.005	
9.0	.136	.078	.039	.117	.068	.034	.081	.048	.024	.047	.028	.014	.015	.009	.005	
10.0	.130	.074	.036	.112	.064	.032	.078	.045	.023	.045	.027	.013	.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:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm										
NAME: F2146-250W					TYPE:			WEIGHT:		
DIM.:					SPEC.:			SERIAL No.:		
MFR.:					SUR.:0.21*0.21			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	32.3	33.7	32.6	34.0	34.2	31.9	33.3	32.2	33.6	33.8
3H	33.6	34.9	33.9	35.2	35.5	33.0	34.4	33.3	34.6	34.9
4H	34.0	35.2	34.3	35.5	35.8	33.3	34.5	33.6	34.8	35.1
6H	34.1	35.3	34.4	35.6	35.9	33.3	34.5	33.7	34.8	35.1
8H	34.1	35.2	34.4	35.5	35.9	33.3	34.4	33.6	34.7	35.1
12H	34.0	35.1	34.4	35.5	35.8	33.2	34.3	33.6	34.7	35.0
4H 2H	32.8	34.1	33.1	34.4	34.7	32.5	33.8	32.8	34.0	34.3
3H	34.3	35.4	34.6	35.7	36.0	33.8	34.9	34.1	35.2	35.5
4H	34.7	35.7	35.1	36.1	36.4	34.1	35.1	34.5	35.5	35.8
6H	34.9	35.8	35.3	36.2	36.6	34.2	35.1	34.6	35.5	35.9
8H	34.9	35.7	35.3	36.1	36.6	34.2	35.0	34.6	35.4	35.8
12H	34.9	35.6	35.3	36.1	36.5	34.1	34.9	34.6	35.3	35.7
8H 4H	34.8	35.6	35.2	36.0	36.5	34.2	35.1	34.7	35.5	35.9
6H	35.1	35.7	35.5	36.2	36.6	34.4	35.1	34.8	35.5	36.0
8H	35.1	35.7	35.6	36.1	36.6	34.4	35.0	34.8	35.4	35.9
12H	35.1	35.6	35.6	36.1	36.6	34.3	34.9	34.8	35.3	35.8
12H 4H	34.8	35.5	35.2	35.9	36.4	34.2	35.0	34.7	35.4	35.8
6H	35.0	35.6	35.5	36.1	36.6	34.4	35.0	34.8	35.4	35.9
8H	35.1	35.6	35.6	36.1	36.6	34.4	34.9	34.9	35.4	35.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.5				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 32952 lm Total Lamp Luminous Flux. (8log(F/F0) = 12.1)

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:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	PROTECTION ANGLE:

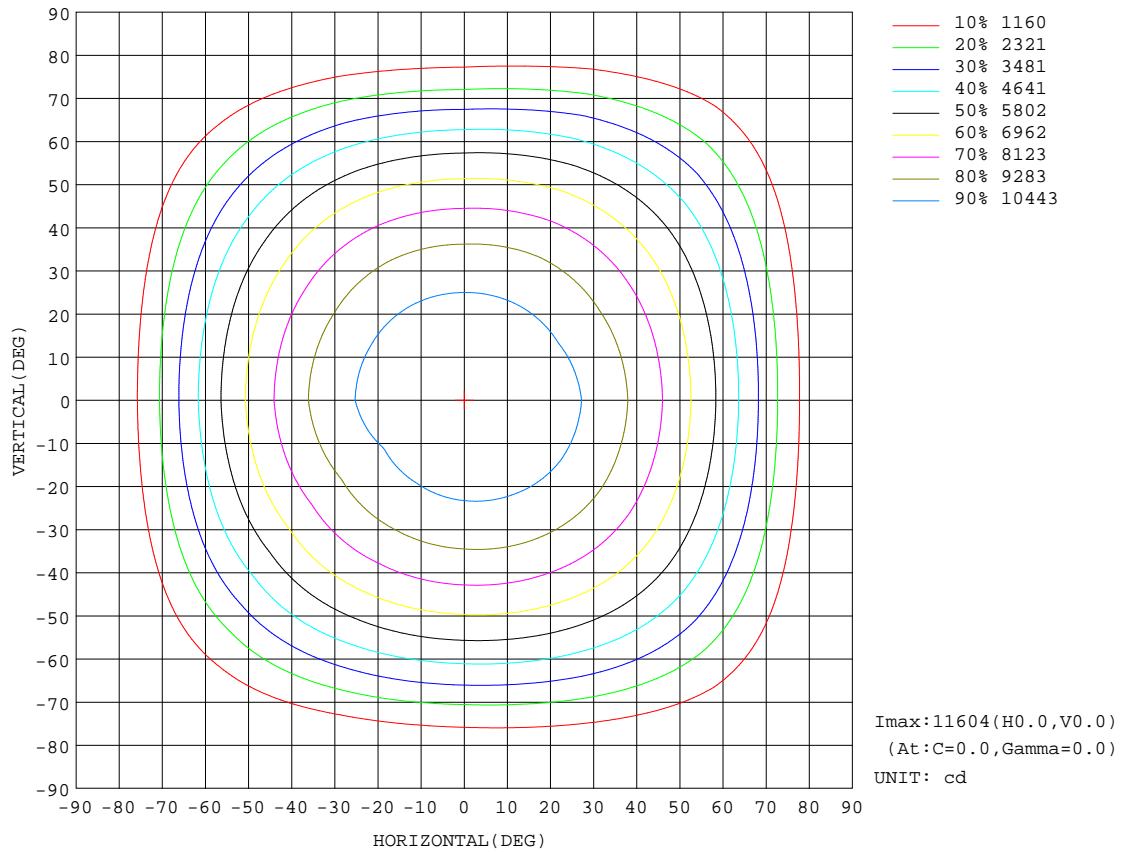
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	46	39	57	46	39	55	45	39	32
0.80	68	56	49	67	56	49	65	55	48	42
1.00	77	66	58	75	65	58	73	66	58	50
1.25	84	73	67	82	73	66	79	71	65	58
1.50	89	79	72	87	78	72	84	76	71	63
2.00	96	87	81	94	86	80	90	84	79	71
2.50	99	92	86	97	91	85	93	88	83	75
3.00	103	96	91	100	95	90	96	91	87	79
4.00	107	101	97	104	99	95	100	96	92	83
5.00	109	104	101	106	102	99	102	98	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:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	PROTECTION ANGLE:

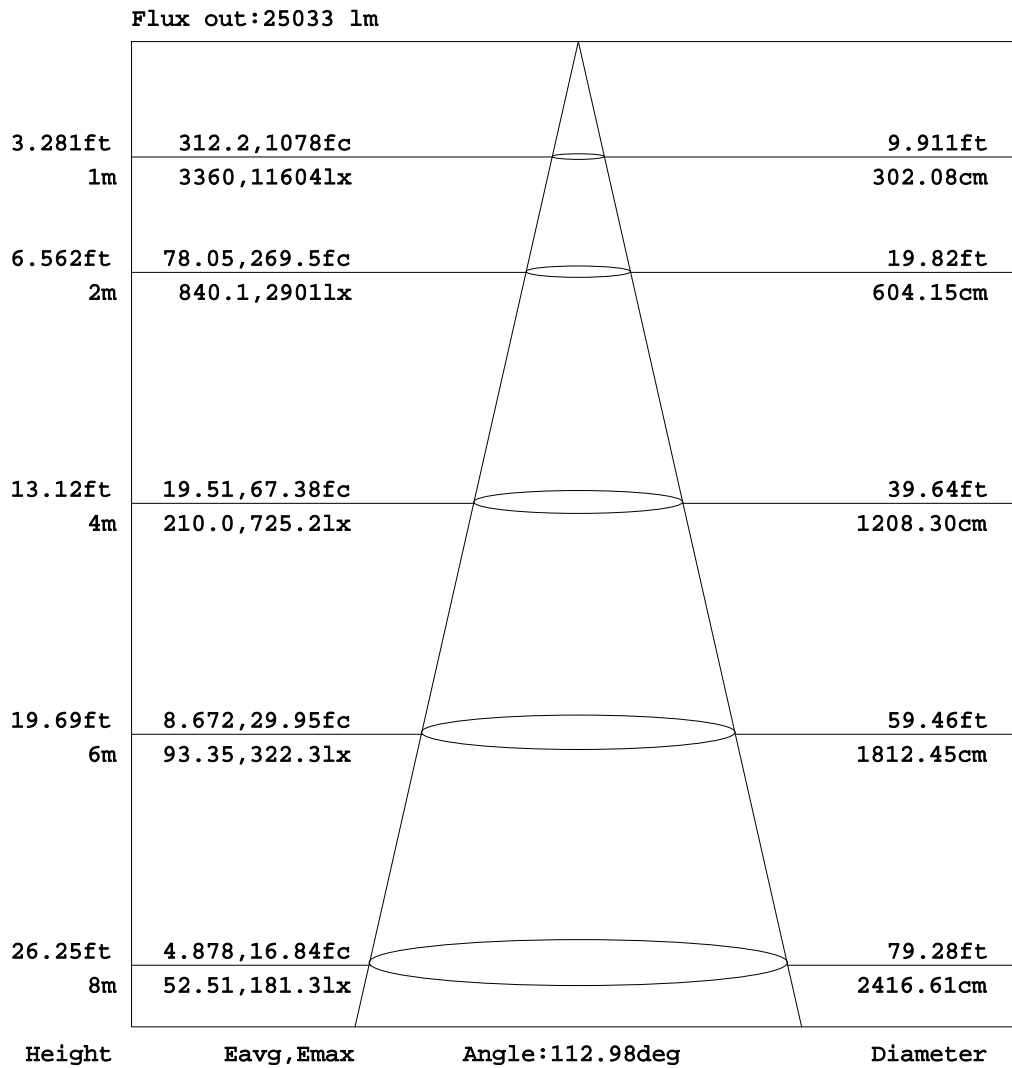


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-05-14

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:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	PROTECTION ANGLE:



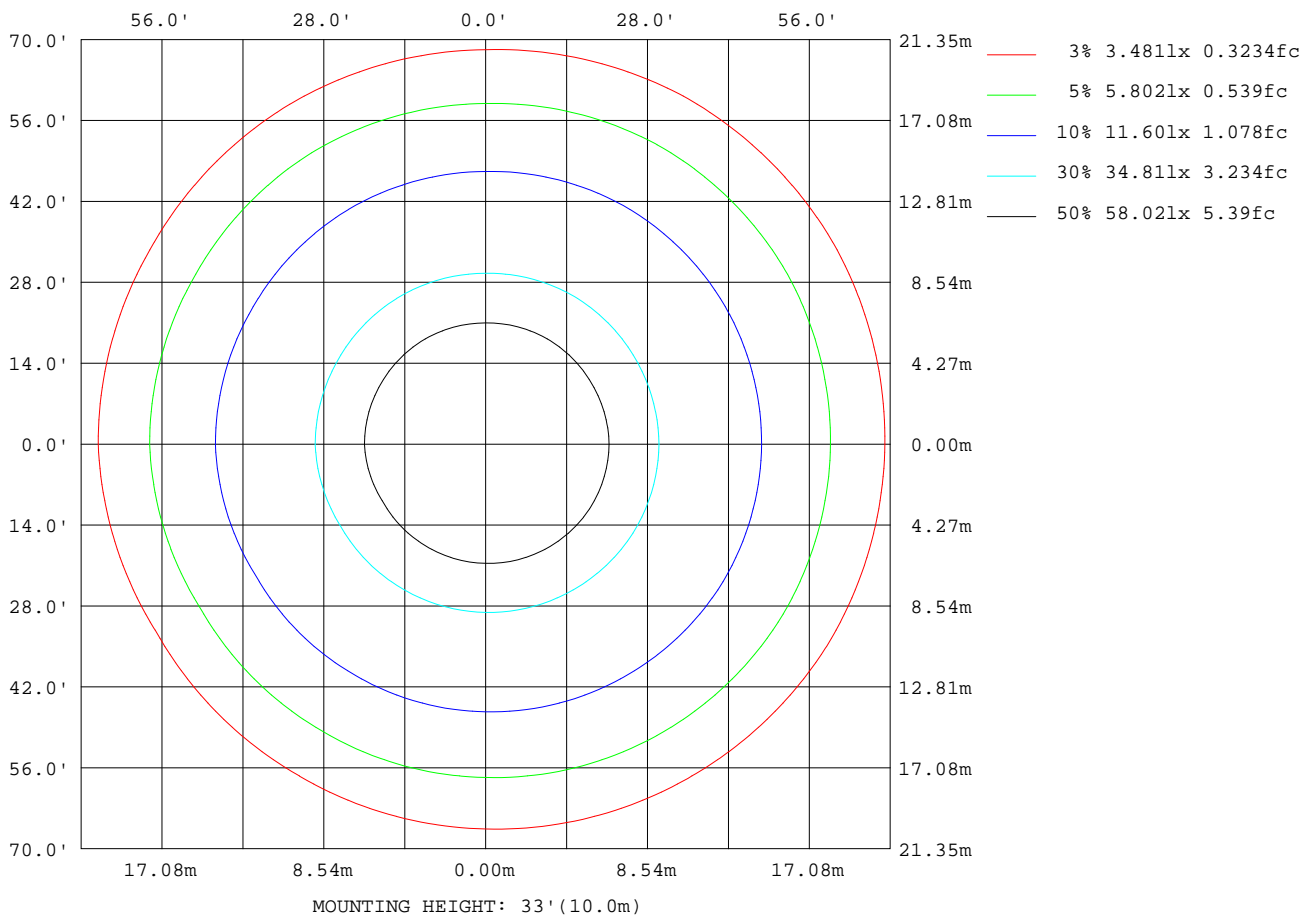
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

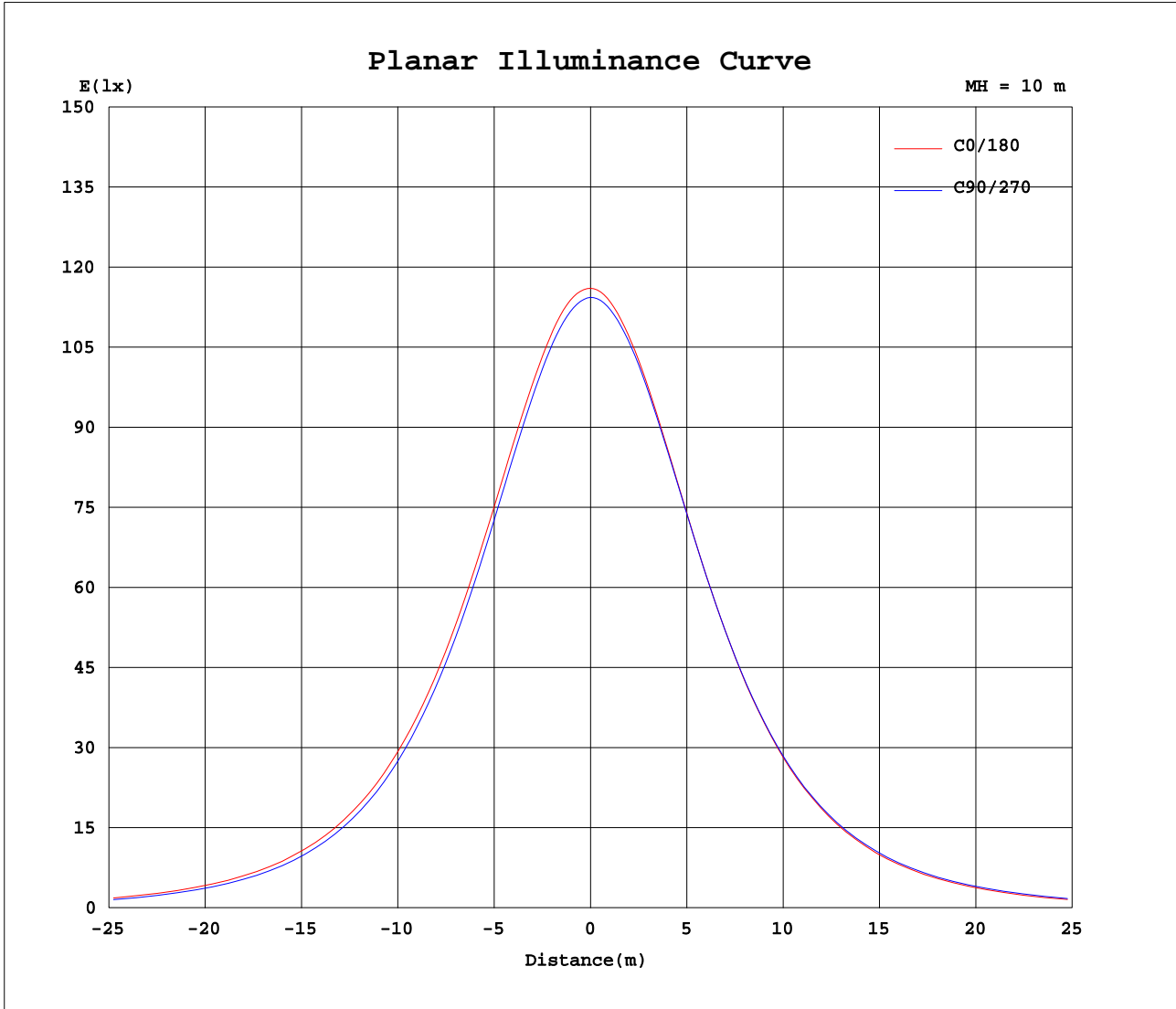
Test:U:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	PROTECTION ANGLE:



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:231.9V I:1.095A P:251.7W PF:0.9908 Lamp Flux:32952x1 lm		
NAME: F2146-250W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.21*0.21	PROTECTION ANGLE:

Table--1

UNIT: x10cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1160	1155	1149	1143	1138	1135	1160	1155	1149	1143	1138	1135							
5	1158	1152	1144	1137	1131	1128	1155	1149	1145	1140	1136	1134							
10	1147	1140	1132	1123	1117	1112	1140	1136	1134	1128	1127	1125							
15	1126	1119	1111	1100	1093	1089	1119	1114	1113	1110	1109	1106							
20	1100	1092	1080	1069	1060	1057	1087	1083	1083	1081	1082	1081							
25	1063	1055	1041	1029	1020	1016	1047	1044	1044	1044	1046	1047							
30	1019	1009	993	981	971	968	998	996	999	998	1003	1004							
35	964	955	938	922	912	909	943	937	944	942	952	952							
40	901	891	871	856	843	842	875	872	878	878	890	891							
45	827	816	796	777	765	763	797	795	803	804	818	821							
50	743	733	710	691	678	674	711	706	718	720	737	742							
55	649	639	615	595	580	576	611	610	622	627	646	651							
60	545	536	511	489	473	468	502	502	519	525	546	552							
65	431	421	397	375	359	353	385	387	404	412	437	442							
70	300	300	277	248	234	226	249	258	277	286	320	325							
75	175	173	153	133	118	116	130	139	159	163	191	200							
80	72.6	71.8	57.8	46.3	36.8	34.0	45.1	47.9	60.0	67.7	86.3	87.9							
85	16.4	16.3	10.8	7.82	7.25	6.42	7.43	8.19	12.1	14.5	20.6	22.0							
90	5.88	5.87	5.74	5.74	5.77	5.76	5.91	5.83	5.73	5.78	5.93	5.92							
95	6.22	6.20	6.23	6.23	6.27	6.26	6.30	6.22	6.10	6.00	5.92	5.92							
100	6.81	6.86	6.84	6.89	6.88	6.91	6.85	6.71	6.58	6.46	6.38	6.37							
105	7.42	7.46	7.44	7.53	7.49	7.54	7.43	7.26	7.16	6.99	6.97	6.91							
110	7.94	7.98	7.95	8.06	8.00	8.08	7.99	7.78	7.68	7.52	7.50	7.44							
115	8.49	8.51	8.49	8.59	8.53	8.58	8.54	8.27	8.18	8.04	8.01	7.94							
120	8.93	9.03	9.02	9.08	9.04	9.07	9.02	8.76	8.69	8.56	8.54	8.44							
125	9.39	9.54	9.53	9.55	9.56	9.58	9.48	9.25	9.22	9.07	9.07	8.94							
130	9.87	10.1	10.0	10.0	10.1	10.1	10.0	9.81	9.78	9.59	9.59	9.48							
135	10.3	10.6	10.5	10.5	10.5	10.6	10.6	10.4	10.4	10.2	10.2	10.1							
140	10.8	11.1	11.0	11.0	11.0	11.1	11.2	10.9	11.0	10.7	10.7	10.6							
145	11.3	11.6	11.5	11.5	11.5	11.5	11.8	11.5	11.5	11.3	11.3	11.2							
150	11.9	12.1	11.9	12.0	11.9	11.9	12.3	12.0	12.1	11.8	11.8	11.7							
155	12.4	12.6	12.3	12.5	12.3	12.3	12.8	12.4	12.6	12.3	12.2	12.2							
160	13.1	13.1	13.0	13.1	12.9	12.8	13.3	12.9	13.0	12.9	12.7	12.8							
165	13.6	13.5	13.4	13.5	13.3	13.2	13.7	13.4	13.4	13.4	13.2	13.2							
170	13.9	13.8	13.7	13.7	13.5	13.5	13.9	13.7	13.7	13.6	13.4	13.5							
175	13.8	13.8	13.6	13.6	13.4	13.4	13.9	13.7	13.6	13.6	13.4	13.5							
180	13.7	13.6	13.5	13.6	13.3	13.4	13.8	13.6	13.5	13.5	13.3	13.4							

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: