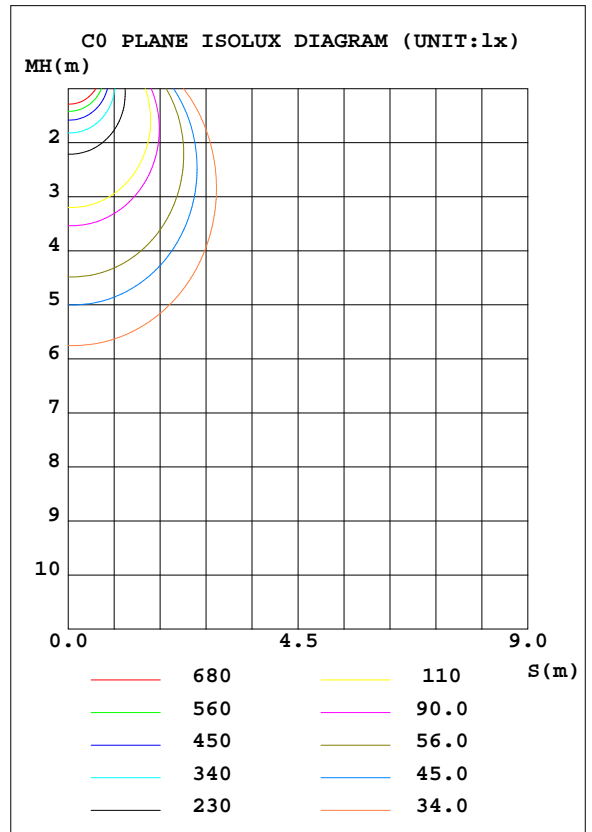
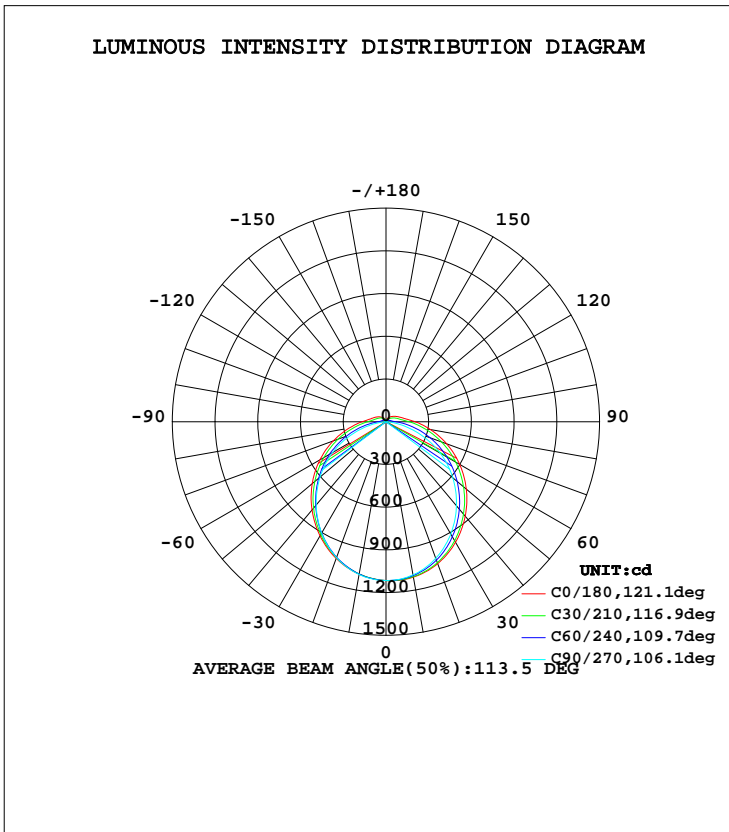


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 119.05 lm/W			
MODEL	136-311_3000K	Imax(cd)	1117	S/MH(C0/180)	1.30
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.22
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	3643.0	η UP, DN(C0-180)	3.9,46.7
NOMINAL FLUX(lm)	3643.04	CIE CLASS	DIRECT	η UP, DN(C180-360)	3.7,45.7
LAMPS INSIDE	1	η up(%)	7.6	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.7	η down(%)	92.4	CIBSE SHR MAX	1.35



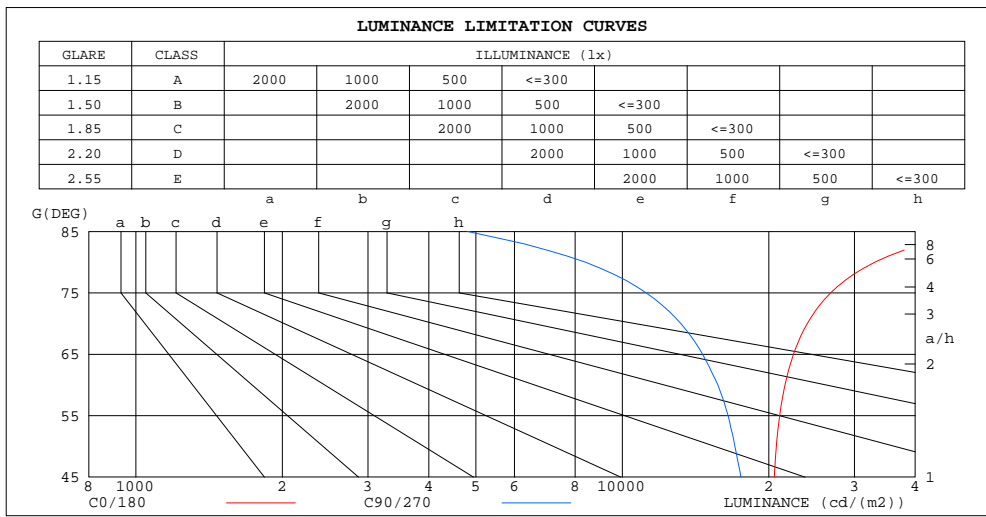
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum,lamp
10	1109	1101	1092	1088	1087	1086	1089	1100	0- 10	105.4	105.4	2.89,2.89
20	1061	1044	1021	1020	1022	1015	1016	1042	10- 20	301.0	406.5	11.2,11.2
30	977.2	948.5	910.4	916.8	926.3	910.0	903.5	946.8	20- 30	453.4	859.9	23.6,23.6
40	865.9	824.4	770.3	789.2	808.5	780.2	762.9	823.5	30- 40	544.0	1404	38.5,38.5
50	736.6	682.0	612.3	645.6	676.4	635.0	605.0	682.3	40- 50	565.9	1970	54.1,54.1
60	596.9	529.1	439.2	493.6	536.2	481.9	433.8	531.5	50- 60	522.6	2492	68.4,68.4
70	453.8	373.1	252.2	339.8	393.7	327.0	249.8	377.3	60- 70	423.3	2916	80,80
80	317.1	225.6	81.58	199.5	264.8	186.4	79.04	232.7	70- 80	288.9	3205	88,88
90	204.9	117.1	3.874	105.1	168.4	94.12	3.373	120.3	80- 90	161.0	3366	92.4,92.4
100	133.4	70.82	3.526	68.09	114.3	60.82	3.326	74.73	90-100	90.22	3456	94.9,94.9
110	99.49	51.62	5.006	53.10	88.09	47.59	4.954	55.76	100-110	62.00	3518	96.6,96.6
120	77.21	37.73	6.697	42.68	69.45	38.46	6.575	40.93	110-120	45.01	3563	97.8,97.8
130	59.41	27.84	8.254	34.36	51.05	31.07	8.034	28.20	120-130	31.74	3595	98.7,98.7
140	44.51	21.22	9.699	27.24	39.85	24.69	9.105	21.14	130-140	21.39	3616	99.3,99.3
150	32.16	17.15	10.91	21.43	28.90	19.32	10.21	16.97	140-150	13.69	3630	99.6,99.6
160	22.38	14.56	11.90	16.82	18.93	15.30	11.14	14.30	150-160	8.078	3638	99.9,99.9
170	14.27	13.58	12.64	13.88	13.76	12.85	11.85	12.95	160-170	4.061	3642	100,100
180	13.37	12.96	12.94	13.08	13.49	12.95	12.90	13.06	170-180	1.253	3643	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



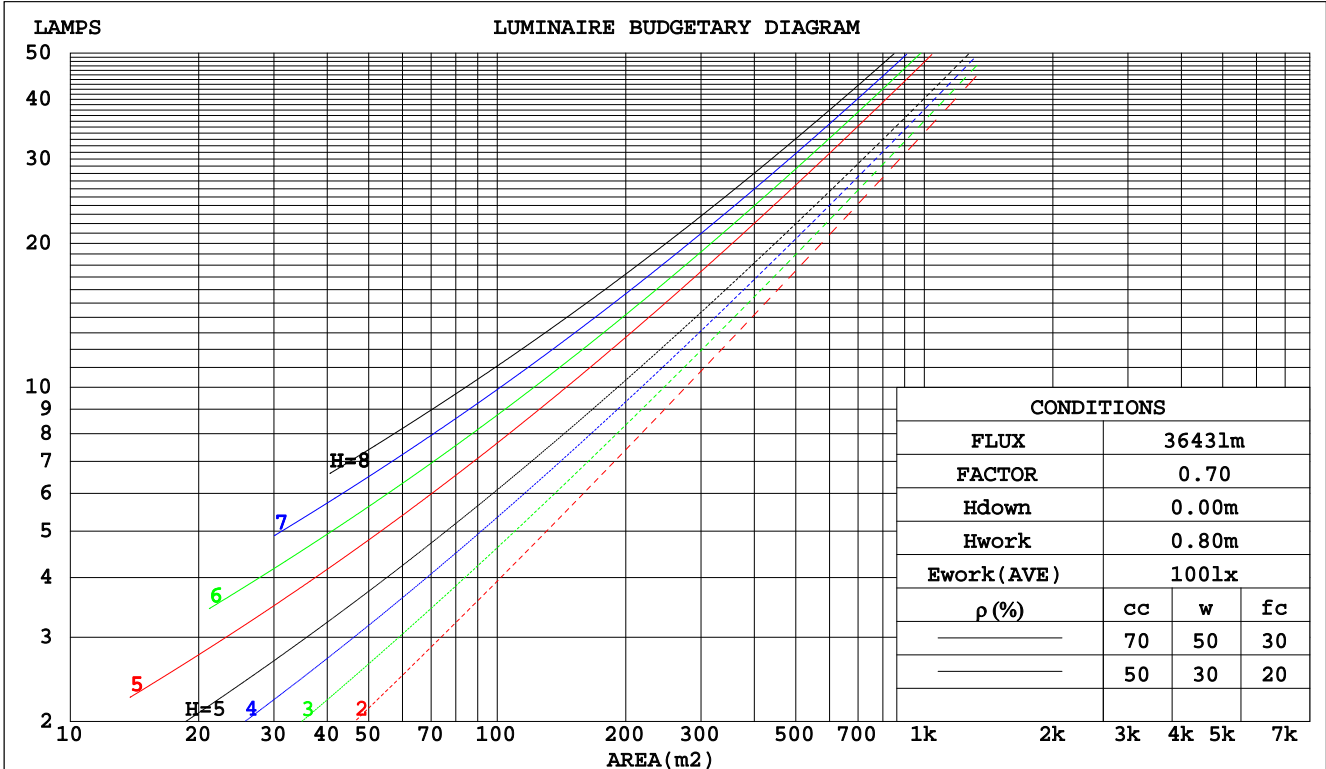
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:10.237m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	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	1.17	1.17	1.17	1.14	1.14	1.14	1.07	1.07	1.07	1.01	1.01	1.01	.95	.95	.95	.92
1.0	1.00	.96	.91	.97	.93	.89	.92	.88	.85	.86	.84	.81	.82	.79	.77	.75
2.0	.87	.80	.74	.84	.78	.72	.79	.74	.69	.75	.70	.66	.71	.67	.64	.61
3.0	.76	.67	.61	.74	.66	.60	.70	.63	.58	.66	.60	.56	.62	.58	.54	.51
4.0	.67	.58	.51	.65	.57	.50	.62	.55	.49	.59	.52	.47	.55	.50	.46	.43
5.0	.60	.51	.44	.58	.50	.43	.55	.48	.42	.52	.46	.41	.50	.44	.40	.37
6.0	.54	.45	.38	.52	.44	.38	.50	.42	.37	.47	.41	.36	.45	.39	.35	.33
7.0	.49	.40	.34	.48	.39	.33	.45	.38	.32	.43	.37	.32	.41	.35	.31	.29
8.0	.44	.36	.30	.43	.35	.30	.41	.34	.29	.40	.33	.28	.38	.32	.28	.26
9.0	.41	.32	.27	.40	.32	.27	.38	.31	.26	.36	.30	.25	.35	.29	.25	.23
10.0	.38	.30	.24	.37	.29	.24	.35	.28	.24	.34	.28	.23	.32	.27	.23	.21



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	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	.341	.194	.061	.332	.189	.060	.314	.180	.058	.298	.172	.055	.283	.164	.053	
2.0	.308	.169	.052	.300	.165	.051	.284	.158	.049	.269	.151	.047	.256	.145	.046	
3.0	.280	.149	.045	.272	.146	.044	.258	.140	.043	.245	.134	.041	.233	.129	.040	
4.0	.255	.133	.039	.249	.130	.038	.236	.125	.037	.224	.120	.036	.213	.116	.035	
5.0	.234	.119	.035	.228	.117	.034	.217	.113	.033	.206	.109	.032	.196	.105	.031	
6.0	.216	.108	.031	.211	.106	.031	.200	.103	.030	.191	.099	.029	.182	.096	.028	
7.0	.200	.099	.028	.196	.097	.028	.186	.094	.027	.177	.091	.026	.169	.088	.026	
8.0	.187	.091	.026	.182	.090	.025	.174	.087	.025	.166	.084	.024	.158	.081	.024	
9.0	.175	.084	.024	.171	.083	.023	.163	.080	.023	.155	.078	.022	.149	.075	.022	
10.0	.164	.079	.022	.160	.077	.022	.153	.075	.021	.146	.073	.021	.140	.070	.020	

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	.248	.248	.248	.212	.212	.212	.145	.145	.145	.083	.083	.083	.027	.027	.027	
1.0	.241	.214	.190	.206	.184	.164	.141	.127	.113	.081	.073	.066	.026	.024	.021	
2.0	.233	.191	.155	.200	.164	.134	.137	.114	.093	.079	.066	.055	.025	.021	.018	
3.0	.226	.174	.132	.193	.150	.115	.133	.104	.080	.077	.061	.047	.025	.020	.016	
4.0	.218	.161	.117	.187	.139	.102	.129	.097	.071	.074	.057	.042	.024	.018	.014	
5.0	.210	.150	.106	.181	.130	.092	.124	.091	.065	.072	.053	.039	.023	.017	.013	
6.0	.203	.142	.099	.174	.123	.086	.120	.086	.061	.070	.051	.036	.023	.017	.012	
7.0	.196	.135	.093	.169	.117	.081	.117	.082	.057	.068	.048	.034	.022	.016	.011	
8.0	.190	.130	.089	.163	.113	.077	.113	.079	.055	.066	.047	.033	.021	.015	.011	
9.0	.183	.125	.085	.158	.108	.074	.109	.076	.053	.064	.045	.032	.021	.015	.010	
10.0	.178	.121	.083	.153	.105	.072	.106	.074	.051	.062	.044	.031	.020	.014	.010	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm										
NAME: 136-311_3000K					TYPE:30W			WEIGHT:		
DIM.:					SPEC.:3000K			SERIAL No.:1		
MFR.: Tronix Lighting					SUR.:0.055X1.014			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	23.3	24.7	23.6	25.1	25.4	22.1	23.5	22.4	23.9	24.2
3H	25.4	26.7	25.8	27.1	27.5	23.4	24.8	23.8	25.2	25.5
4H	26.4	27.7	26.9	28.1	28.5	23.9	25.2	24.4	25.6	26.0
6H	27.6	28.8	28.0	29.2	29.6	24.2	25.4	24.7	25.8	26.3
8H	28.2	29.3	28.6	29.7	30.2	24.3	25.4	24.7	25.8	26.3
12H	28.9	30.0	29.3	30.4	30.9	24.3	25.4	24.7	25.8	26.3
4H 2H	23.8	25.1	24.2	25.5	25.9	22.9	24.2	23.3	24.6	25.0
3H	26.1	27.2	26.6	27.7	28.1	24.5	25.6	25.0	26.1	26.5
4H	27.4	28.4	27.9	28.9	29.4	25.2	26.2	25.7	26.6	27.1
6H	28.7	29.6	29.2	30.1	30.6	25.6	26.5	26.1	27.0	27.5
8H	29.4	30.3	29.9	30.8	31.3	25.7	26.6	26.3	27.1	27.6
12H	30.2	31.0	30.8	31.5	32.1	25.8	26.6	26.3	27.1	27.6
8H 4H	27.7	28.5	28.2	29.0	29.6	25.8	26.6	26.3	27.1	27.7
6H	29.2	29.9	29.8	30.5	31.1	26.5	27.2	27.1	27.7	28.3
8H	30.1	30.8	30.7	31.3	31.9	26.8	27.4	27.3	27.9	28.6
12H	31.2	31.7	31.8	32.3	32.9	26.9	27.5	27.5	28.0	28.7
12H 4H	27.7	28.4	28.2	29.0	29.5	25.9	26.7	26.5	27.2	27.8
6H	29.3	30.0	29.9	30.5	31.1	26.8	27.4	27.4	28.0	28.6
8H	30.3	30.9	30.9	31.4	32.1	27.2	27.7	27.8	28.3	28.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 3643 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.5)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:

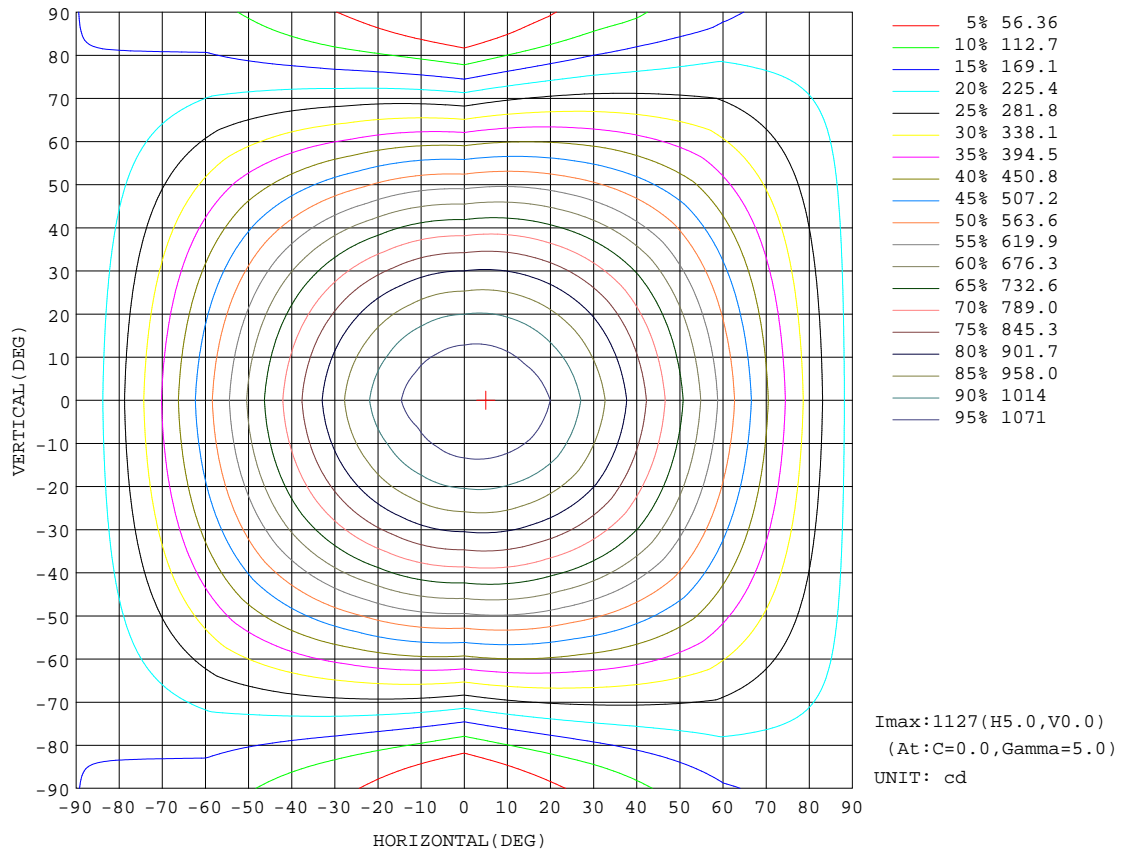
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	35	53	42	35	51	41	34	28
0.80	63	51	44	62	51	43	60	50	43	36
1.00	71	60	52	70	59	52	67	60	51	43
1.25	78	67	59	77	66	59	73	64	58	49
1.50	83	73	65	81	71	64	78	69	63	54
2.00	90	81	74	88	79	73	84	76	71	61
2.50	95	86	79	92	84	78	87	80	75	65
3.00	98	90	84	95	88	82	90	84	79	69
4.00	102	96	90	99	93	88	94	89	85	74
5.00	105	99	94	102	97	92	96	92	88	77
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:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:

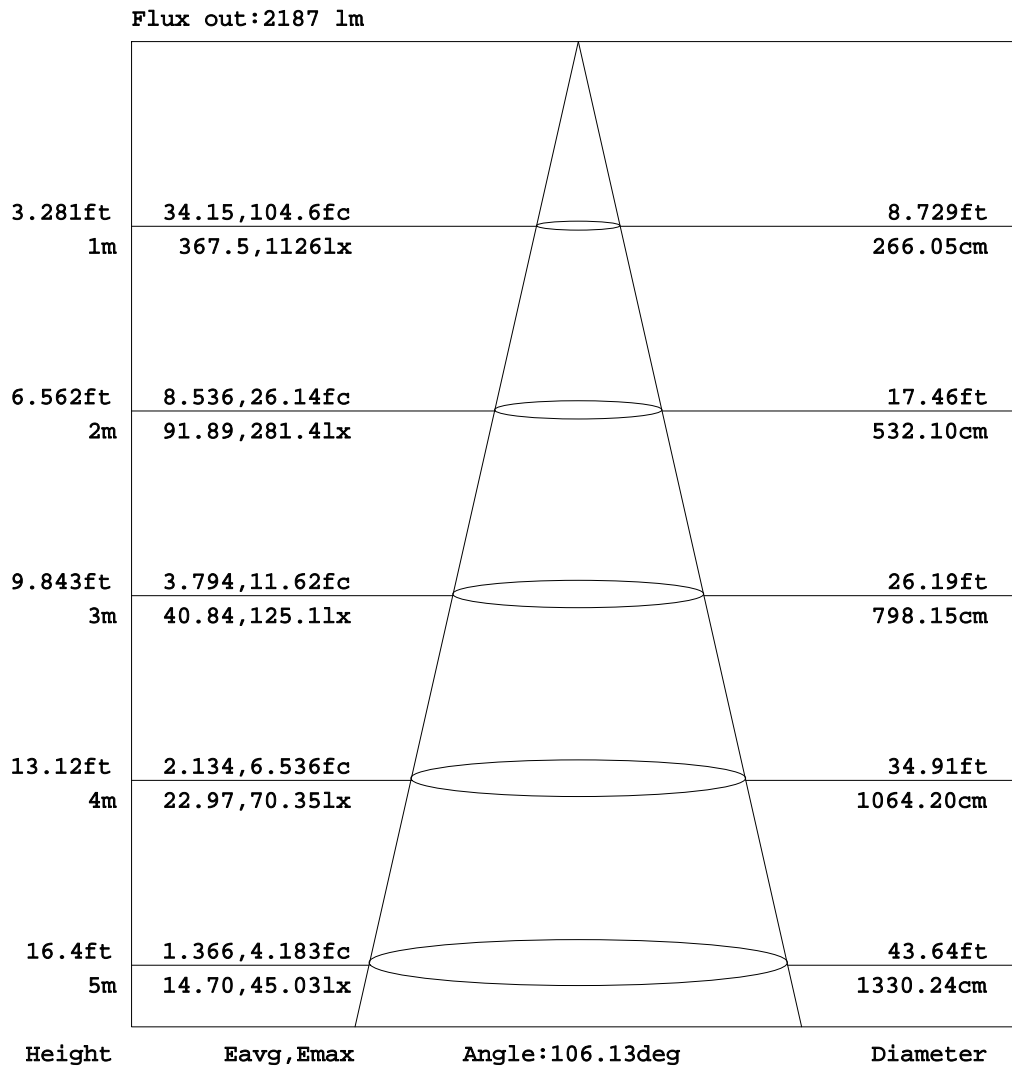


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

AAI Figure

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:



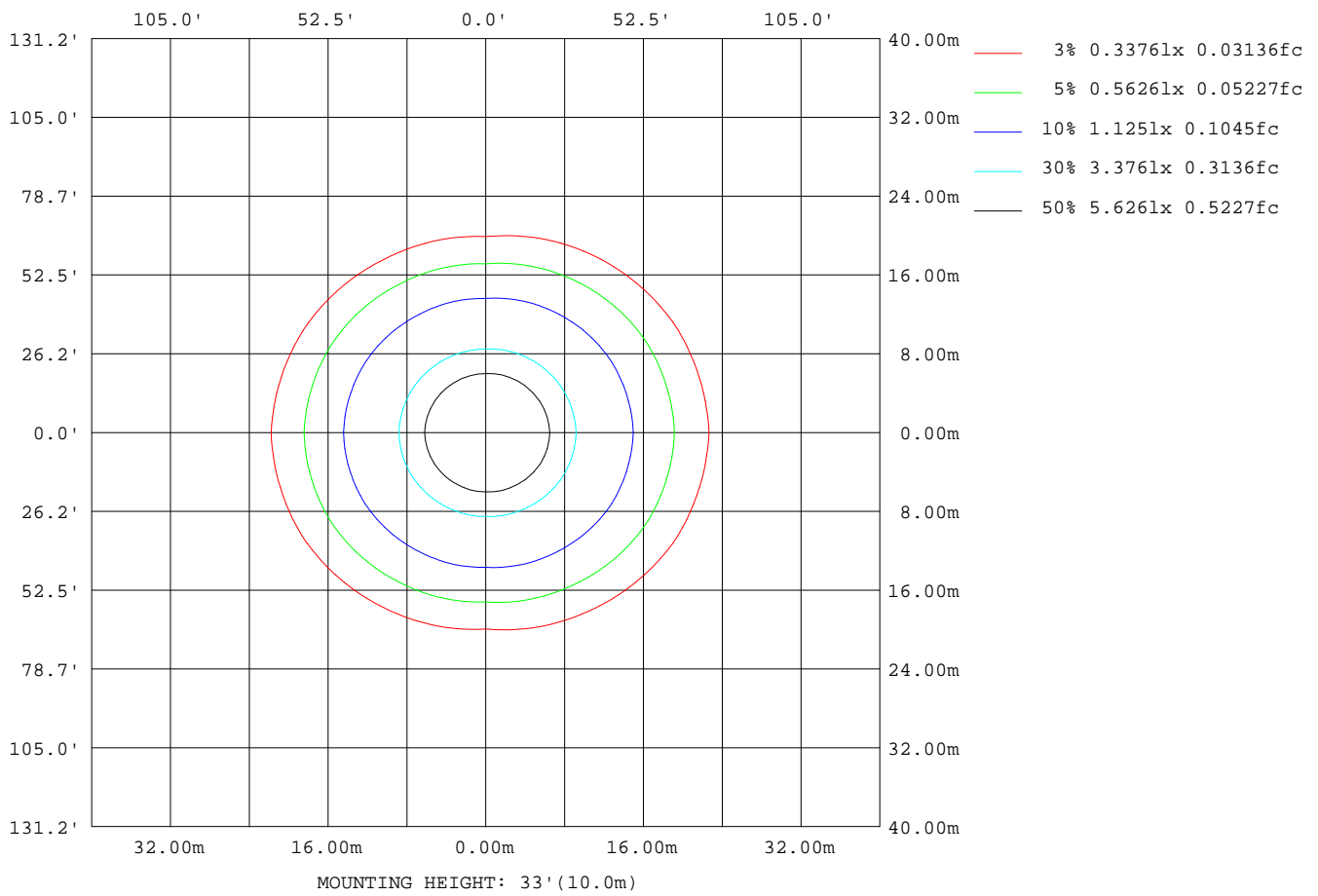
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

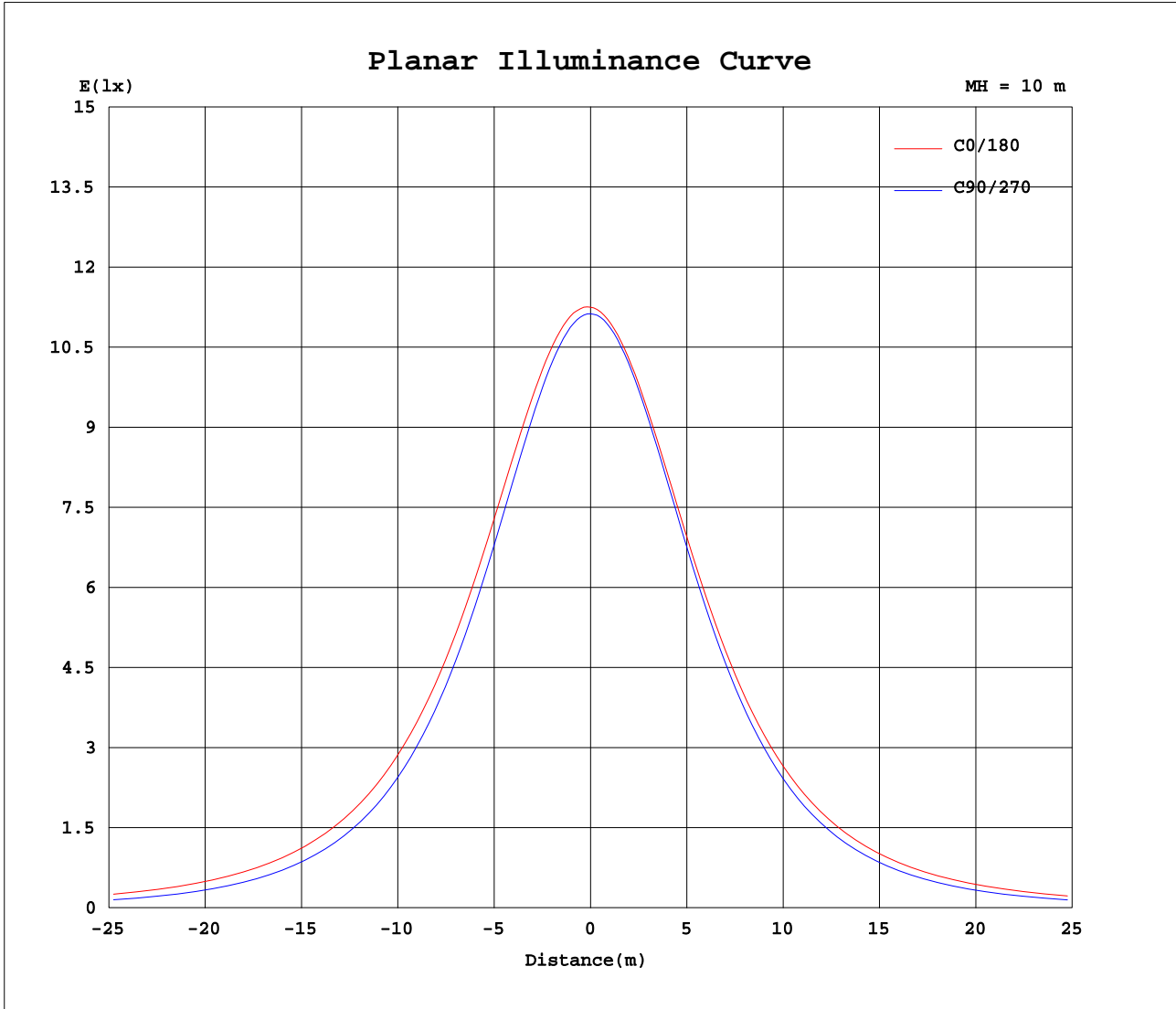
Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 10.237m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.7V I:0.1300A P:30.60W PF:0.9770 Lamp Flux:3643.04x1 lm		
NAME: 136-311_3000K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG)\γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115							
5	1117	1116	1112	1110	1108	1107	1106	1105	1106	1108	1112	1114							
10	1109	1105	1097	1092	1088	1088	1087	1085	1086	1089	1096	1104							
15	1089	1084	1072	1062	1058	1059	1059	1055	1055	1058	1070	1082							
20	1061	1054	1035	1021	1018	1022	1022	1017	1013	1016	1033	1051							
25	1023	1013	988	970	968	976	977	970	962	964	987	1011							
30	977	964	933	910	911	923	926	916	904	904	932	962							
35	924	908	870	843	847	864	869	856	838	836	869	907							
40	866	847	802	770	777	801	809	792	769	763	802	845							
45	803	780	729	693	704	733	744	723	695	685	730	780							
50	737	711	653	612	628	663	676	653	617	605	654	711							
55	668	639	573	529	549	591	607	580	538	522	576	639							
60	597	565	493	439	469	518	536	506	458	434	497	566							
65	525	490	412	345	389	444	465	431	376	341	417	492							
70	454	415	331	252	309	370	394	358	296	250	336	418							
75	383	342	252	162	232	300	326	288	219	160	259	346							
80	317	274	177	81.6	162	237	265	225	148	79.0	186	279							
85	257	213	115	23.4	106	183	212	171	92.0	20.9	125	215							
90	205	163	70.9	3.87	68.8	141	168	131	57.1	3.37	78.1	163							
95	163	126	48.5	2.97	50.3	112	136	103	41.4	2.69	55.2	128							
100	133	102	39.5	3.53	42.2	94.0	114	86.9	34.7	3.33	45.4	104							
105	114	87.7	33.8	4.22	37.1	82.2	99.7	76.0	30.7	4.14	38.8	89.5							
110	99.5	75.0	28.2	5.01	33.2	73.0	88.1	67.5	27.7	4.95	33.3	78.2							
115	87.6	65.7	24.2	5.84	30.0	65.0	78.2	60.2	25.3	5.76	27.6	65.5							
120	77.2	54.4	21.0	6.70	27.4	57.9	69.5	53.6	23.3	6.57	23.7	58.2							
125	67.9	45.4	18.7	7.49	25.2	51.5	61.3	47.7	21.5	7.31	20.6	46.9							
130	59.4	38.5	17.1	8.25	23.2	45.5	51.0	42.2	19.9	8.03	18.6	37.9							
135	51.7	32.5	15.9	9.04	21.4	40.0	46.1	37.0	18.3	8.48	16.9	32.3							
140	44.5	27.5	14.9	9.70	19.7	34.8	39.9	32.3	17.0	9.10	15.6	26.7							
145	38.0	23.5	13.9	10.4	18.1	30.2	34.0	28.0	15.8	9.66	14.4	22.9							
150	32.2	20.4	13.9	10.9	16.8	26.1	28.9	24.2	14.5	10.2	13.9	20.1							
155	27.0	17.8	13.7	11.4	15.3	22.4	23.4	20.7	13.6	10.7	13.5	17.7							
160	22.4	15.6	13.5	11.9	14.4	19.3	18.9	17.7	12.9	11.1	13.2	15.4							
165	16.4	14.8	13.3	12.3	13.7	16.3	15.6	14.9	12.6	11.5	12.9	14.1							
170	14.3	14.0	13.2	12.6	13.3	14.5	13.8	13.4	12.3	11.8	12.5	13.4							
175	13.6	13.3	13.0	12.8	13.1	13.4	13.6	13.2	12.8	12.8	13.1	13.4							
180	13.4	13.0	12.9	12.9	13.0	13.1	13.5	13.0	12.9	12.9	13.0	13.1							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks: