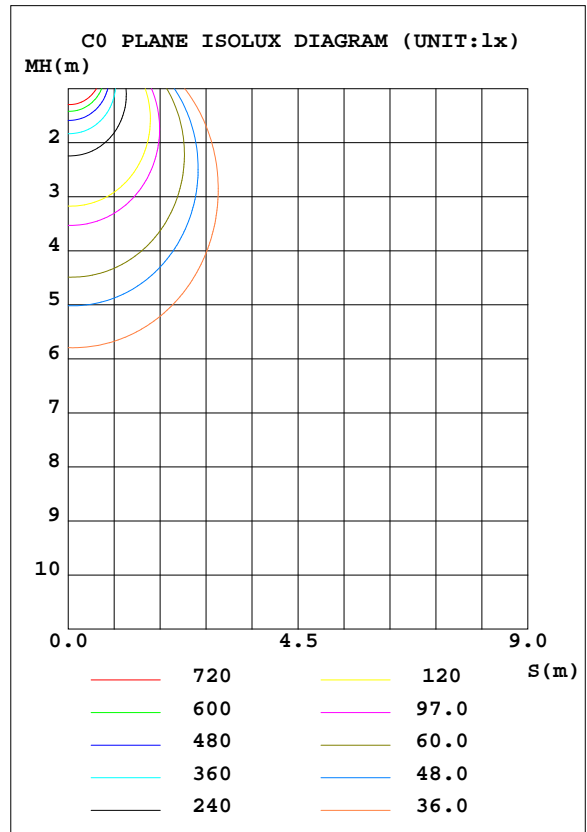
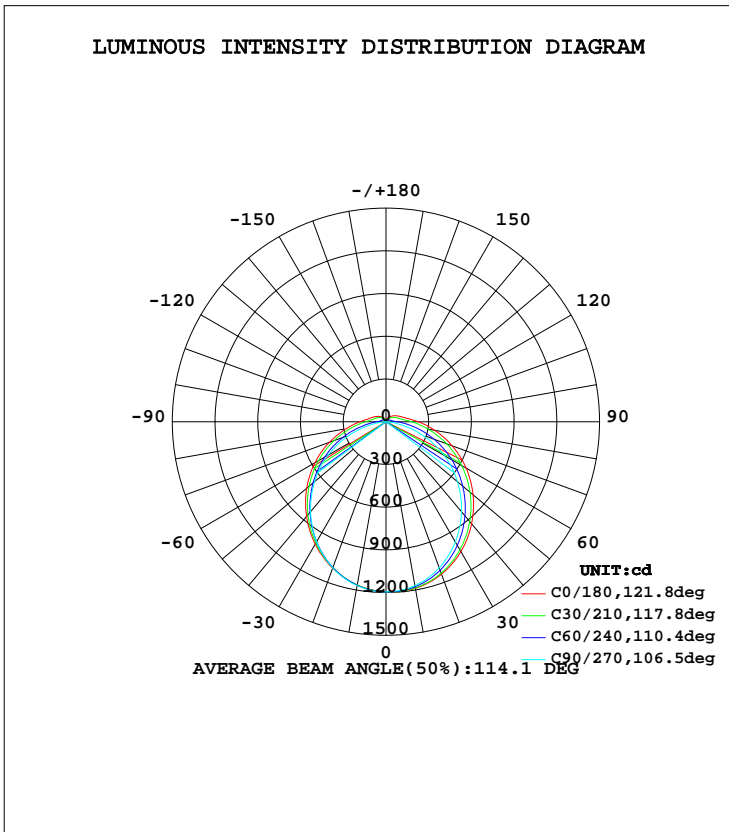


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.7V I:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 129.40 lm/W			
MODEL	136-311_5700K	I _{max} (cd)	1197	S/MH(C0/180)	1.31
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.22
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	3933.8	η UP, DN(C0-180)	4.0, 46.6
NOMINAL FLUX(lm)	3933.78	CIE CLASS	DIRECT	η UP, DN(C180-360)	3.7, 45.7
LAMPS INSIDE	1	η up(%)	7.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.7	η down(%)	92.3	CIBSE SHR MAX	1.35



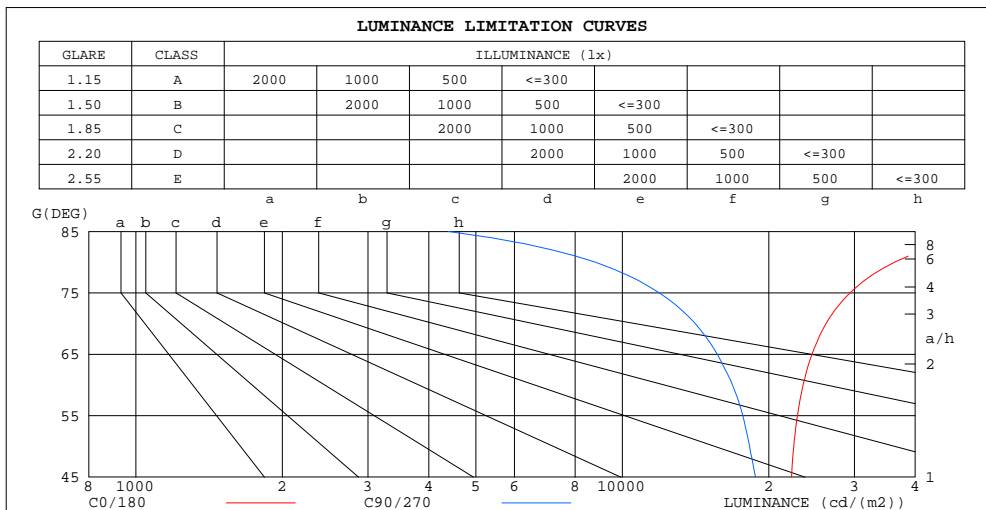
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

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	1188	1181	1169	1165	1164	1165	1169	1181	0- 10	113.0	113.0	2.87,2.87
20	1140	1121	1092	1091	1095	1091	1093	1122	10- 20	322.9	436.0	11.1,11.1
30	1052	1020	974.4	980.3	993.2	979.4	974.1	1022	20- 30	487.1	923.1	23.5,23.5
40	935.6	888.9	825.3	844.1	868.0	842.0	823.8	892.2	30- 40	585.5	1509	38.4,38.4
50	798.6	737.1	656.1	690.6	727.1	687.2	654.9	740.9	40- 50	610.3	2119	53.9,53.9
60	649.2	573.8	470.8	527.2	576.8	522.8	470.2	578.2	50- 60	564.6	2683	68.2,68.2
70	495.0	406.6	270.2	361.8	424.2	355.8	271.1	410.9	60- 70	458.1	3142	79.9,79.9
80	347.6	247.6	85.45	211.7	285.5	204.4	86.12	253.4	70- 80	313.2	3455	87.8,87.8
90	226.5	130.3	3.258	112.0	182.7	105.2	3.146	129.3	80- 90	175.4	3630	92.3,92.3
100	147.2	76.80	3.745	73.26	125.1	68.79	3.487	81.19	90-100	98.83	3729	94.8,94.8
110	109.4	57.22	5.372	57.07	96.53	53.61	5.255	60.43	100-110	67.91	3797	96.5,96.5
120	84.86	41.92	7.202	45.77	75.96	43.13	6.995	43.85	110-120	49.33	3846	97.8,97.8
130	65.35	30.90	8.888	36.74	58.65	34.56	8.526	30.60	120-130	34.76	3881	98.7,98.7
140	49.06	23.71	10.37	29.09	43.26	27.23	9.689	22.92	130-140	23.36	3904	99.3,99.3
150	35.46	18.95	11.65	22.58	31.20	21.09	10.87	18.34	140-150	14.90	3919	99.6,99.6
160	24.78	16.04	12.70	17.72	21.17	16.49	11.87	15.51	150-160	8.757	3928	99.9,99.9
170	15.46	14.69	13.45	14.76	14.48	13.81	12.63	13.93	160-170	4.383	3932	100,100
180	14.36	13.94	13.78	14.00	14.52	13.92	13.72	13.98	170-180	1.342	3934	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



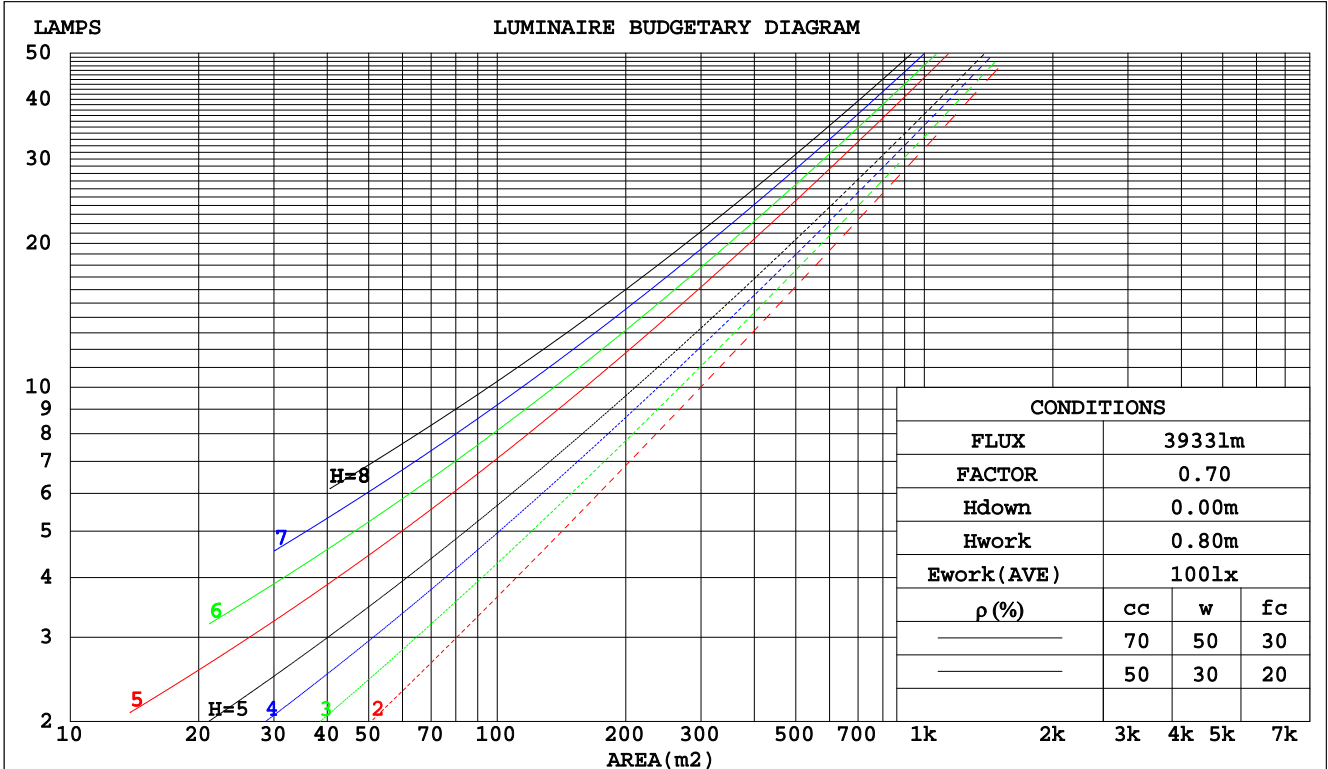
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-09-23

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:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	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	.83	.81	.81	.79	.77	.74
2.0	.87	.80	.73	.84	.78	.72	.79	.74	.69	.75	.70	.66	.71	.67	.64	.61
3.0	.76	.67	.61	.74	.66	.59	.70	.63	.57	.66	.60	.55	.62	.58	.54	.51
4.0	.67	.58	.51	.65	.57	.50	.62	.54	.49	.58	.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	.33	.47	.39	.33	.45	.38	.32	.43	.36	.32	.41	.35	.31	.29
8.0	.44	.36	.30	.43	.35	.29	.41	.34	.29	.39	.33	.28	.38	.32	.28	.26
9.0	.41	.32	.27	.40	.32	.26	.38	.31	.26	.36	.30	.25	.35	.29	.25	.23
10.0	.37	.29	.24	.37	.29	.24	.35	.28	.23	.34	.27	.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:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	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	.342	.195	.062	.333	.190	.060	.315	.181	.058	.298	.172	.055	.283	.164	.053	
2.0	.309	.169	.052	.300	.165	.051	.284	.158	.049	.270	.151	.047	.256	.145	.046	
3.0	.280	.149	.045	.273	.146	.044	.258	.140	.043	.245	.134	.041	.233	.129	.040	
4.0	.256	.133	.039	.249	.130	.038	.236	.125	.037	.224	.120	.036	.213	.116	.035	
5.0	.235	.120	.035	.228	.117	.034	.217	.113	.033	.206	.109	.032	.196	.105	.032	
6.0	.216	.108	.031	.211	.107	.031	.201	.103	.030	.191	.099	.029	.182	.096	.028	
7.0	.201	.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	.085	.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	.249	.249	.249	.213	.213	.213	.145	.145	.145	.084	.084	.084	.027	.027	.027	
1.0	.242	.215	.191	.207	.185	.164	.142	.127	.114	.081	.074	.066	.026	.024	.021	
2.0	.234	.192	.156	.201	.165	.135	.137	.114	.094	.079	.066	.055	.025	.021	.018	
3.0	.226	.174	.133	.194	.150	.115	.133	.104	.081	.077	.061	.048	.025	.020	.016	
4.0	.219	.161	.118	.188	.139	.102	.129	.097	.072	.075	.057	.043	.024	.019	.014	
5.0	.211	.151	.107	.181	.131	.093	.125	.091	.066	.072	.054	.039	.023	.018	.013	
6.0	.204	.143	.099	.175	.124	.087	.121	.087	.061	.070	.051	.036	.023	.017	.012	
7.0	.197	.136	.094	.169	.118	.082	.117	.083	.058	.068	.049	.034	.022	.016	.011	
8.0	.190	.131	.089	.164	.113	.078	.113	.080	.055	.066	.047	.033	.021	.015	.011	
9.0	.184	.126	.086	.159	.109	.075	.110	.077	.053	.064	.045	.032	.021	.015	.011	
10.0	.178	.121	.084	.154	.105	.073	.107	.074	.052	.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:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm										
NAME: 136-311_5700K					TYPE:30W			WEIGHT:		
DIM.:					SPEC.:5700K			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	23.6	25.0	24.0	25.4	25.7	22.3	23.8	22.7	24.1	24.5
3H	25.7	27.0	26.1	27.4	27.8	23.7	25.0	24.1	25.4	25.8
4H	26.8	28.0	27.2	28.4	28.9	24.2	25.5	24.6	25.8	26.3
6H	27.9	29.1	28.4	29.5	30.0	24.5	25.7	24.9	26.1	26.5
8H	28.5	29.7	29.0	30.1	30.6	24.5	25.7	25.0	26.1	26.5
12H	29.2	30.3	29.7	30.8	31.2	24.5	25.6	25.0	26.0	26.5
4H 2H	24.1	25.4	24.5	25.8	26.2	23.2	24.4	23.6	24.8	25.2
3H	26.5	27.6	26.9	28.0	28.5	24.8	25.9	25.2	26.3	26.8
4H	27.7	28.7	28.2	29.2	29.7	25.4	26.5	25.9	26.9	27.4
6H	29.1	30.0	29.6	30.5	31.0	25.9	26.8	26.4	27.3	27.8
8H	29.8	30.6	30.3	31.1	31.7	26.0	26.8	26.5	27.3	27.9
12H	30.6	31.4	31.1	31.9	32.5	26.0	26.8	26.6	27.3	27.9
8H 4H	28.0	28.9	28.5	29.4	29.9	26.1	26.9	26.6	27.4	28.0
6H	29.6	30.3	30.1	30.8	31.4	26.8	27.5	27.3	28.0	28.6
8H	30.5	31.1	31.1	31.7	32.3	27.0	27.7	27.6	28.2	28.8
12H	31.5	32.1	32.1	32.7	33.3	27.2	27.8	27.8	28.3	29.0
12H 4H	28.0	28.8	28.5	29.3	29.9	26.2	27.0	26.8	27.5	28.1
6H	29.7	30.3	30.2	30.9	31.5	27.1	27.7	27.7	28.3	28.9
8H	30.7	31.2	31.3	31.8	32.4	27.5	28.0	28.1	28.6	29.2
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 3934 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.8)

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:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:

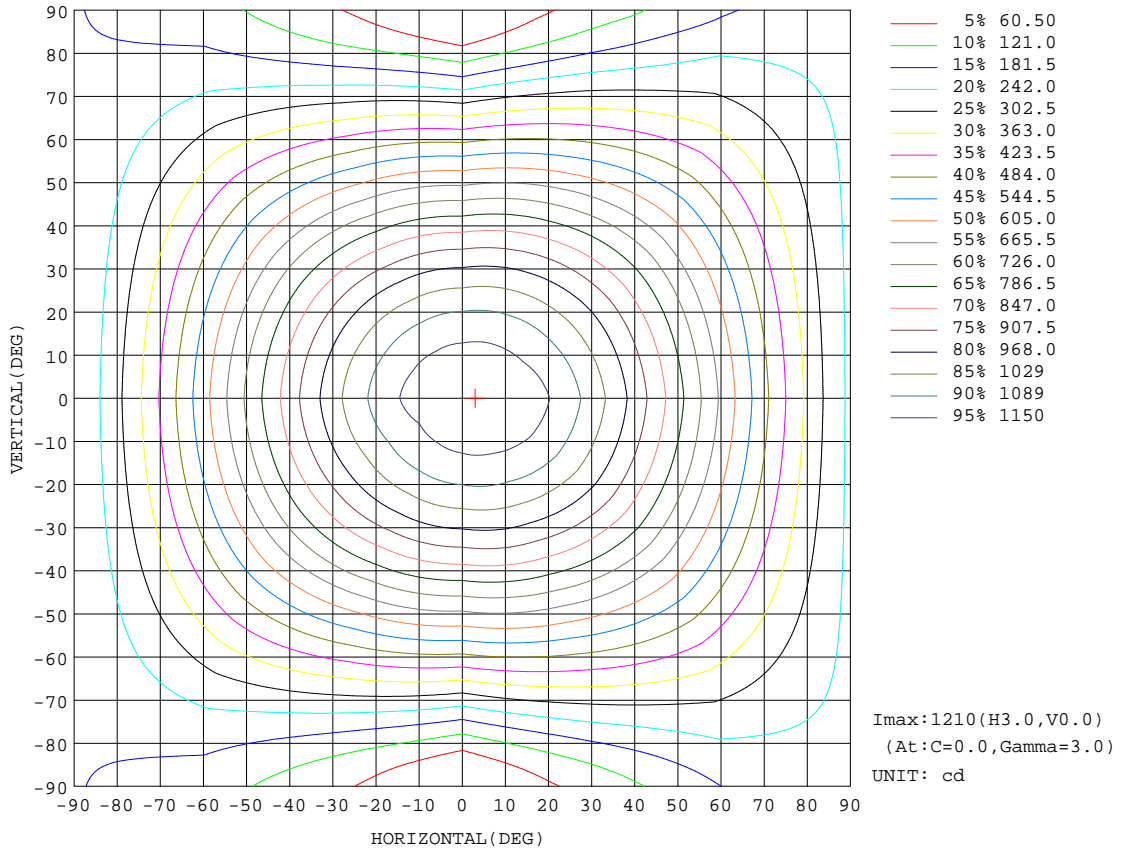
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	35	53	41	35	51	41	34	28
0.80	63	51	44	62	51	43	60	50	43	35
1.00	71	60	52	70	59	51	67	60	51	43
1.25	78	67	59	77	66	59	73	64	58	49
1.50	83	73	65	81	71	64	77	69	63	54
2.00	90	81	74	88	79	72	84	76	70	61
2.50	94	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	73
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:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:

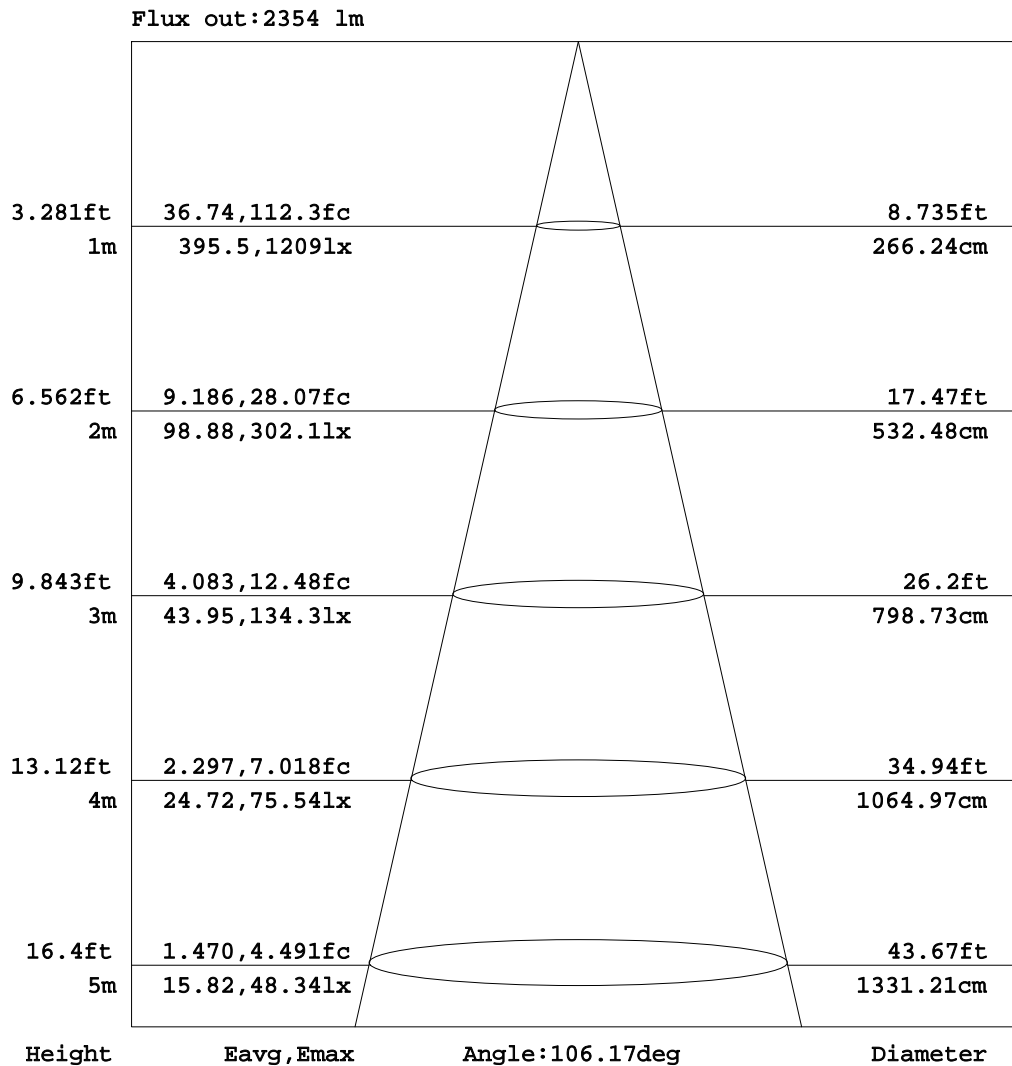


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-23

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:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:



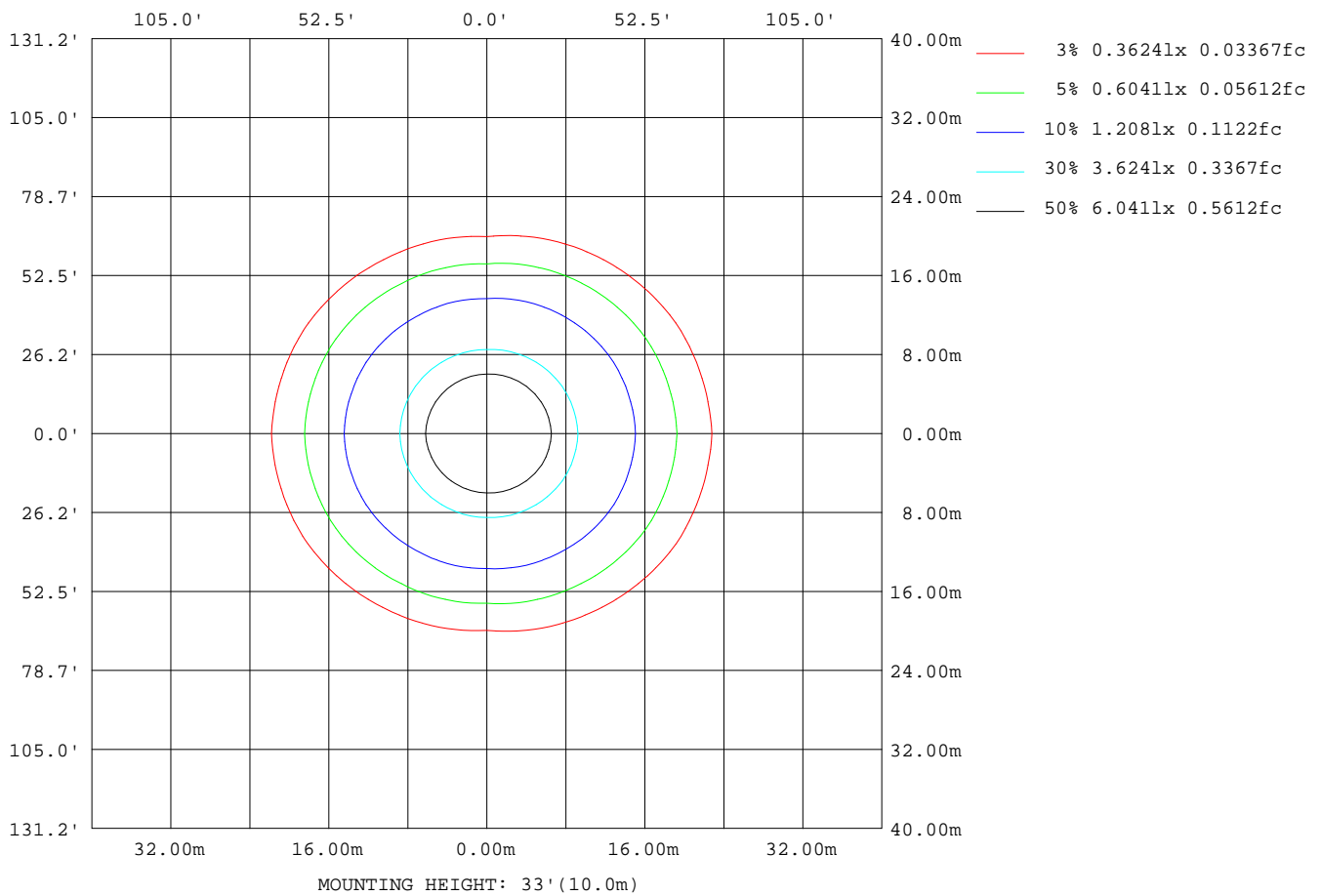
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

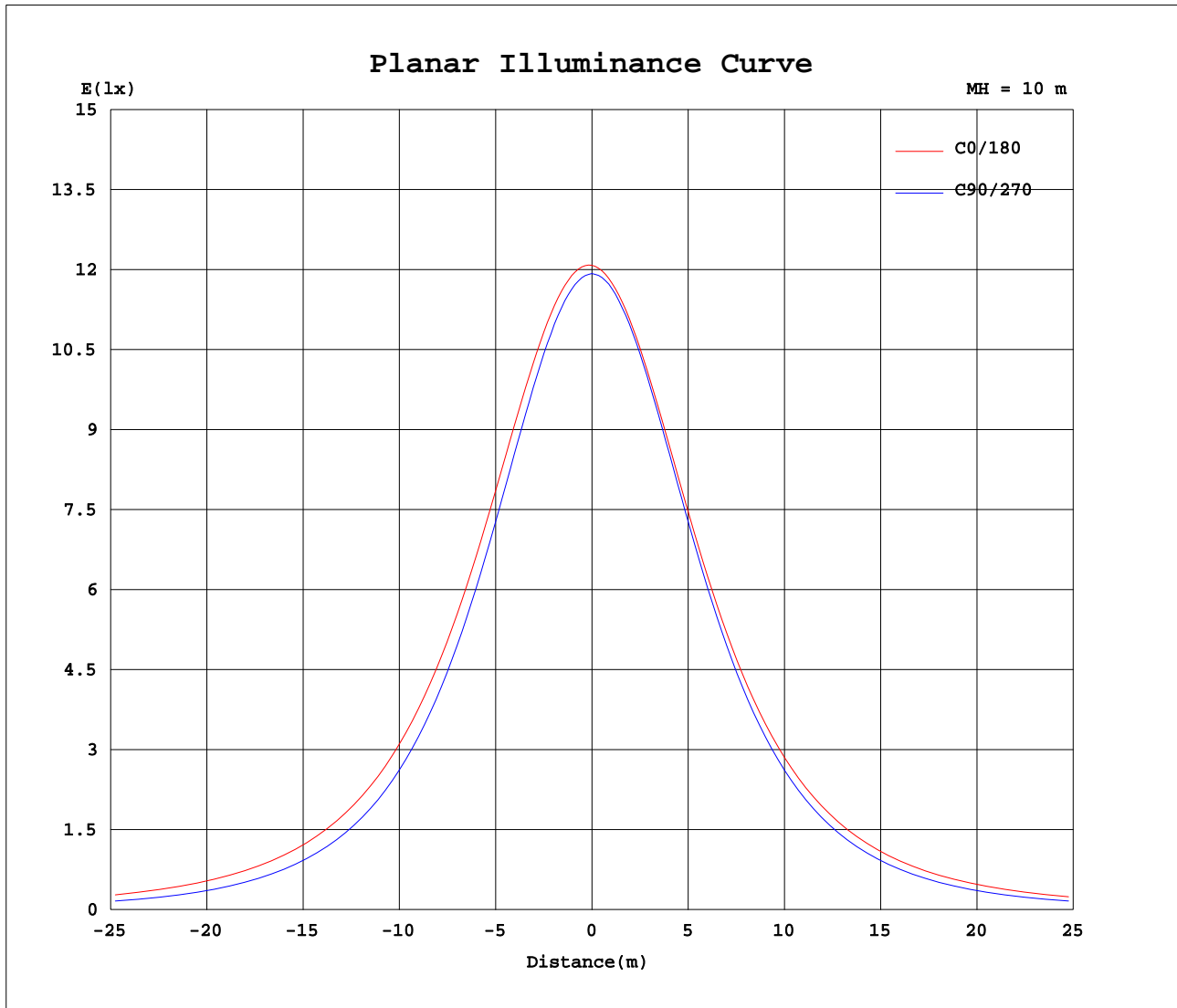
Test:U:240.7V I:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.055X1.014	PROTECTION ANGLE:



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:0.1290A P:30.40W PF:0.9770 Lamp Flux:3933.78x1 lm		
NAME: 136-311_5700K	TYPE:30W	WEIGHT:
DIM.:	SPEC.:5700K	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	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195							
5	1197	1196	1193	1188	1187	1185	1185	1185	1187	1189	1192	1196							
10	1188	1185	1177	1169	1165	1165	1164	1164	1166	1169	1178	1185							
15	1169	1164	1149	1136	1133	1134	1134	1133	1133	1136	1151	1164							
20	1140	1132	1111	1092	1089	1093	1095	1092	1090	1093	1113	1132							
25	1100	1090	1061	1038	1036	1044	1048	1042	1036	1038	1064	1090							
30	1052	1039	1002	974	974	987	993	985	974	974	1006	1039							
35	997	980	936	903	906	925	933	922	906	902	941	981							
40	936	915	863	825	832	856	868	853	831	824	868	916							
45	869	845	785	743	753	785	799	781	751	741	791	846							
50	799	770	704	656	671	710	727	705	669	655	710	772							
55	725	693	620	567	587	633	653	627	584	565	626	696							
60	649	614	533	471	501	554	577	548	498	470	540	616							
65	572	533	446	370	415	474	500	468	409	371	454	537							
70	495	454	359	270	328	395	424	389	323	271	365	457							
75	420	374	275	172	246	320	351	314	239	173	281	378							
80	348	300	194	85.4	171	253	285	246	163	86.1	202	305							
85	283	235	127	21.4	111	196	229	189	103	22.1	135	239							
90	227	181	79.4	3.26	72.4	152	183	145	65.0	3.15	83.6	175							
95	180	138	53.8	3.08	53.3	121	148	115	47.6	2.76	59.2	141							
100	147	110	43.9	3.74	44.8	102	125	97.3	40.1	3.49	48.5	114							
105	125	95.0	37.7	4.53	39.3	89.1	109	85.1	35.3	4.34	41.4	97.6							
110	109	82.5	31.8	5.37	35.1	79.0	96.5	75.5	31.7	5.25	35.7	85.2							
115	96.2	72.5	27.2	6.28	31.8	70.4	85.7	67.3	28.8	6.11	29.6	71.3							
120	84.9	60.1	23.6	7.20	29.0	62.6	76.0	59.9	26.3	6.99	25.2	62.5							
125	74.6	50.4	21.1	8.08	26.6	55.6	67.0	53.1	24.2	7.77	22.0	51.3							
130	65.4	42.5	19.2	8.89	24.5	49.0	58.7	46.8	22.3	8.53	19.9	41.3							
135	56.9	36.3	17.8	9.67	22.5	43.0	50.1	40.9	20.4	9.00	18.1	35.2							
140	49.1	30.7	16.7	10.4	20.7	37.5	43.3	35.6	18.8	9.69	16.7	29.2							
145	41.9	26.2	15.7	11.1	19.1	32.4	36.8	30.7	17.4	10.3	15.6	24.9							
150	35.5	22.6	15.3	11.6	17.2	27.9	31.2	26.4	15.8	10.9	14.9	21.8							
155	29.8	19.8	15.1	12.2	16.0	23.9	26.0	22.5	14.8	11.4	14.6	19.2							
160	24.8	17.3	14.8	12.7	15.1	20.3	21.2	19.0	14.0	11.9	14.2	16.8							
165	19.9	16.1	14.5	13.1	14.5	17.3	16.8	16.0	13.5	12.3	13.8	15.3							
170	15.5	15.2	14.2	13.4	14.1	15.4	14.5	14.4	13.2	12.6	13.4	14.4							
175	14.7	14.4	14.0	13.7	13.9	14.3	14.6	14.1	13.8	13.6	14.0	14.4							
180	14.4	14.0	13.8	13.8	13.9	14.1	14.5	14.0	13.9	13.7	13.9	14.1							

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: