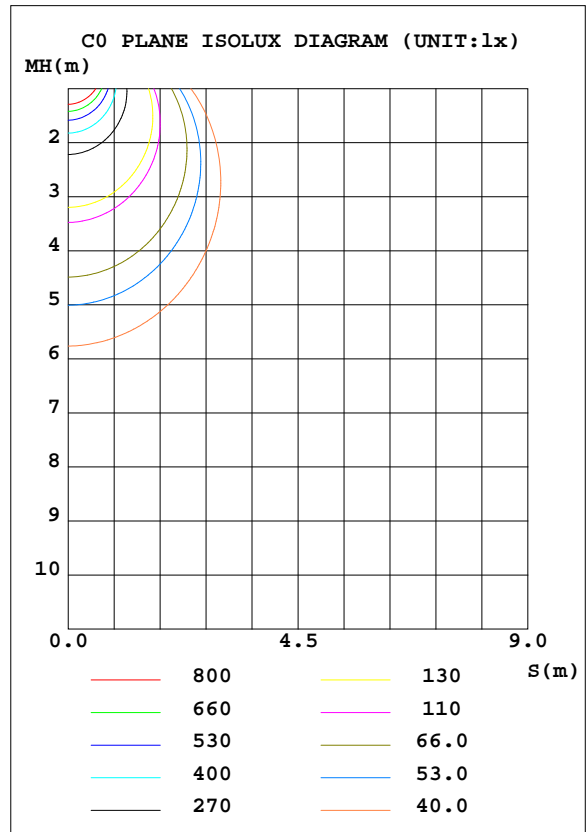
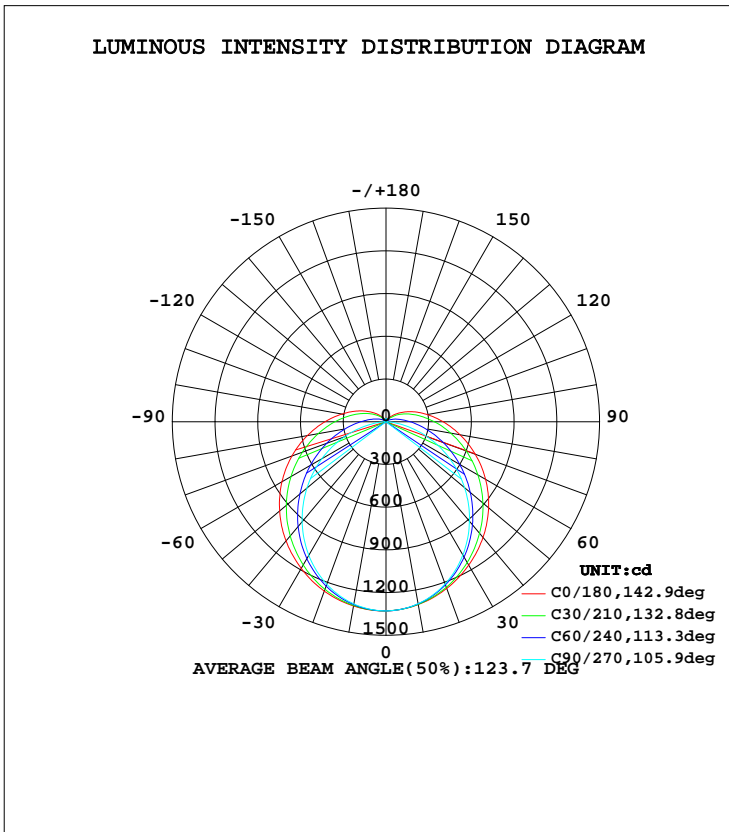


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 128.74 lm/W			
MODEL	950-084	I _{max} (cd)	1329	S/MH(C0/180)	1.31
NOMINAL POWER(W)	38	LOR(%)	100.0	S/MH(C90/270)	1.22
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	5033.8	η UP, DN(C0-180)	5.5, 44.1
NOMINAL FLUX(lm)	5033.81	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	5.7, 44.7
LAMPS INSIDE	1	η up(%)	11.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.0	η down(%)	88.8	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φlum,lamp
10	1303	1301	1298	1305	1314	1307	1300	1302	0- 10	125.6	125.6	2.5,2.5
20	1246	1228	1213	1237	1266	1241	1215	1232	10- 20	359.7	485.3	9.64,9.64
30	1162	1119	1080	1132	1190	1136	1084	1124	20- 30	546.6	1032	20.5,20.5
40	1060	983.5	912.4	997.9	1092	1003	916.2	989.5	30- 40	666.0	1698	33.7,33.7
50	940.5	830.7	721.0	846.0	975.3	851.5	725.2	837.1	40- 50	709.9	2408	47.8,47.8
60	807.7	671.1	516.5	686.6	843.5	691.8	521.1	677.5	50- 60	680.6	3088	61.4,61.4
70	666.9	514.2	306.4	529.4	702.5	533.6	312.6	520.1	60- 70	591.1	3679	73.1,73.1
80	527.6	371.7	113.8	385.5	560.8	387.8	118.0	375.6	70- 80	462.5	4142	82.3,82.3
90	401.4	254.7	9.201	267.0	429.2	268.3	9.046	258.4	80- 90	327.6	4470	88.8,88.8
100	294.6	169.8	9.271	178.2	314.8	179.3	9.264	172.1	90-100	224.2	4694	93.2,93.2
110	206.1	107.5	10.61	114.7	221.0	114.6	10.32	107.1	100-110	147.2	4841	96.2,96.2
120	134.6	64.26	11.96	69.50	145.7	69.16	11.84	64.44	110-120	88.97	4930	97.9,97.9
130	80.31	33.52	13.43	39.68	87.44	39.39	13.70	32.68	120-130	48.91	4979	98.9,98.9
140	40.33	20.90	15.47	23.74	44.41	23.66	15.88	20.50	130-140	24.81	5004	99.4,99.4
150	21.15	18.97	17.68	19.67	21.62	19.88	18.03	18.99	140-150	13.18	5017	99.7,99.7
160	21.04	19.67	19.35	20.36	21.12	20.53	19.63	19.81	150-160	9.159	5026	99.8,99.8
170	21.30	20.40	20.81	20.93	21.42	20.97	20.90	20.43	160-170	5.803	5032	100,100
180	21.03	21.32	21.50	21.29	21.07	21.32	21.51	21.29	170-180	2.005	5034	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

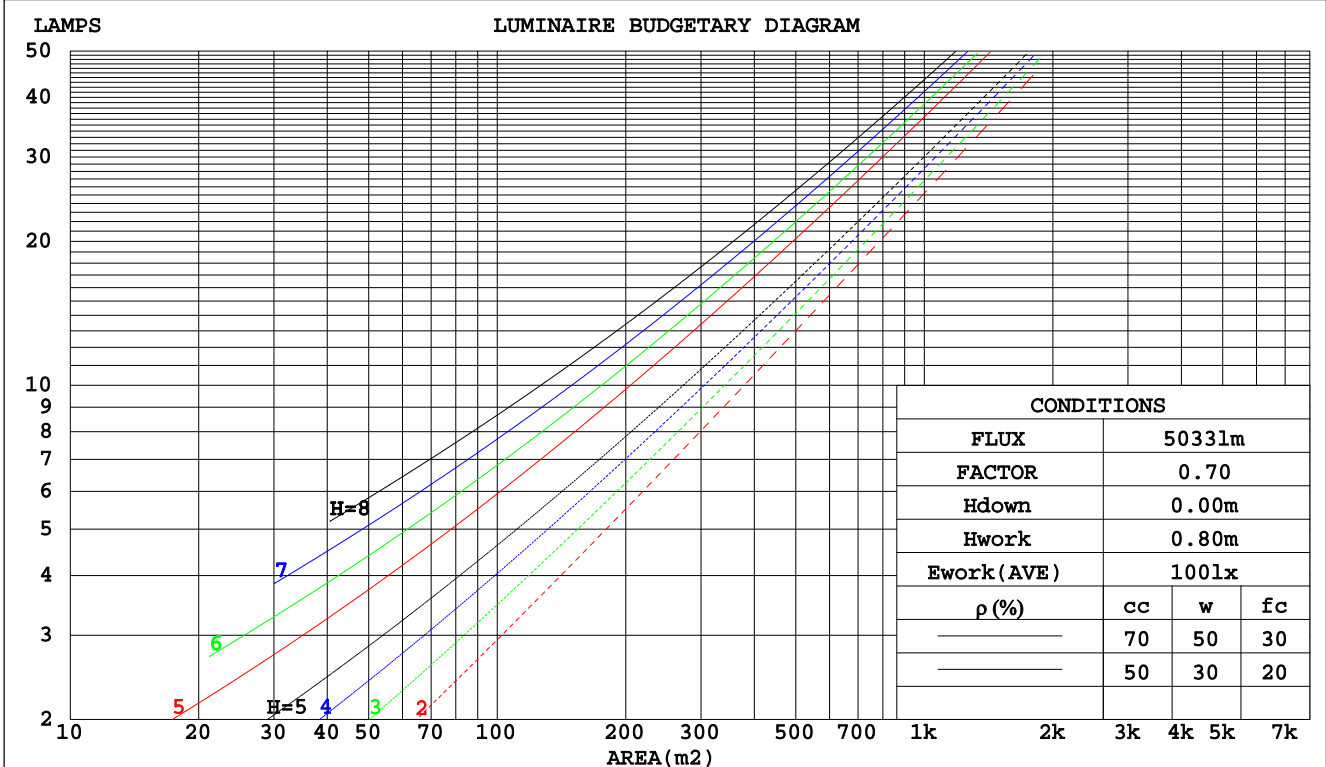
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	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	1.16	1.16	1.16	1.12	1.12	1.12	1.05	1.05	1.05	.98	.98	.98	.92	.92	.92	.89
1.0	.98	.93	.88	.95	.90	.86	.88	.84	.81	.82	.79	.76	.77	.74	.72	.69
2.0	.84	.76	.70	.81	.74	.68	.76	.70	.65	.71	.66	.62	.66	.62	.59	.56
3.0	.73	.64	.57	.71	.63	.56	.66	.59	.54	.62	.56	.51	.58	.53	.49	.46
4.0	.64	.55	.48	.62	.54	.47	.58	.51	.45	.55	.48	.43	.51	.46	.42	.39
5.0	.57	.48	.41	.56	.47	.40	.52	.45	.39	.49	.42	.37	.46	.40	.36	.33
6.0	.51	.42	.35	.50	.41	.35	.47	.39	.34	.44	.38	.32	.42	.36	.31	.29
7.0	.47	.37	.31	.45	.37	.31	.43	.35	.30	.40	.34	.29	.38	.32	.28	.25
8.0	.42	.34	.28	.41	.33	.27	.39	.32	.26	.37	.30	.26	.35	.29	.25	.23
9.0	.39	.30	.25	.38	.30	.24	.36	.29	.24	.34	.27	.23	.32	.26	.22	.20
10.0	.36	.28	.22	.35	.27	.22	.33	.26	.21	.31	.25	.21	.30	.24	.20	.18



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	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	.372	.211	.067	.361	.206	.065	.341	.196	.062	.323	.186	.060	.306	.177	.057	
2.0	.326	.179	.055	.317	.174	.054	.299	.166	.052	.282	.158	.050	.267	.151	.048	
3.0	.292	.155	.047	.283	.152	.046	.267	.145	.044	.252	.138	.042	.238	.132	.041	
4.0	.264	.137	.040	.256	.134	.040	.242	.128	.038	.228	.123	.037	.216	.117	.036	
5.0	.241	.123	.036	.234	.120	.035	.221	.115	.034	.208	.110	.033	.197	.105	.032	
6.0	.221	.111	.032	.215	.108	.031	.203	.104	.030	.192	.100	.029	.181	.095	.028	
7.0	.204	.101	.029	.198	.099	.028	.188	.095	.027	.178	.091	.026	.168	.087	.026	
8.0	.190	.093	.026	.184	.091	.026	.175	.087	.025	.165	.084	.024	.157	.080	.023	
9.0	.177	.086	.024	.172	.084	.024	.163	.081	.023	.155	.078	.022	.147	.074	.022	
10.0	.166	.079	.022	.161	.078	.022	.153	.075	.021	.145	.072	.021	.138	.069	.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	.276	.276	.276	.236	.236	.236	.161	.161	.161	.092	.092	.092	.030	.030	.030	
1.0	.271	.242	.216	.232	.207	.186	.158	.143	.128	.091	.083	.075	.029	.027	.024	
2.0	.264	.218	.181	.226	.188	.156	.155	.130	.109	.089	.076	.064	.029	.024	.021	
3.0	.256	.202	.158	.219	.174	.137	.151	.121	.096	.087	.071	.057	.028	.023	.019	
4.0	.248	.189	.144	.213	.163	.125	.146	.114	.088	.085	.067	.052	.027	.022	.017	
5.0	.240	.179	.133	.206	.155	.116	.142	.108	.082	.082	.063	.049	.027	.021	.016	
6.0	.233	.171	.126	.200	.148	.110	.138	.104	.078	.080	.061	.046	.026	.020	.015	
7.0	.226	.164	.121	.194	.142	.105	.134	.100	.075	.078	.059	.044	.025	.019	.015	
8.0	.219	.158	.117	.189	.137	.102	.130	.096	.072	.076	.057	.043	.025	.019	.014	
9.0	.213	.154	.114	.183	.133	.099	.127	.094	.070	.074	.055	.042	.024	.018	.014	
10.0	.207	.149	.111	.178	.130	.097	.124	.091	.069	.072	.054	.041	.023	.018	.014	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm										
NAME: 950-084					TYPE:38W			WEIGHT:		
DIM.:					SPEC.:5000K			SERIAL No.:1		
MFR.: Tronix Lighting					SUR.:1.53X0.085			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	20.9	22.4	21.4	22.8	23.2	19.2	20.6	19.6	21.0	21.4
3H	23.4	24.7	23.8	25.1	25.6	20.6	22.0	21.1	22.4	22.9
4H	24.7	26.0	25.2	26.4	26.9	21.2	22.5	21.7	22.9	23.4
6H	26.1	27.3	26.6	27.8	28.3	21.6	22.8	22.1	23.3	23.8
8H	26.9	28.1	27.4	28.5	29.1	21.7	22.8	22.2	23.3	23.9
12H	27.8	28.9	28.3	29.4	30.0	21.7	22.8	22.2	23.3	23.9
4H 2H	21.5	22.8	22.0	23.2	23.7	20.2	21.4	20.6	21.9	22.4
3H	24.2	25.3	24.7	25.8	26.3	21.9	23.0	22.4	23.5	24.0
4H	25.7	26.7	26.2	27.2	27.8	22.6	23.6	23.2	24.2	24.7
6H	27.3	28.2	27.9	28.8	29.4	23.2	24.1	23.8	24.7	25.3
8H	28.2	29.1	28.8	29.6	30.3	23.4	24.3	24.0	24.8	25.5
12H	29.3	30.1	29.9	30.6	31.3	23.5	24.3	24.1	24.9	25.5
8H 4H	26.0	26.8	26.6	27.4	28.0	23.5	24.4	24.1	24.9	25.5
6H	27.9	28.7	28.5	29.3	29.9	24.4	25.2	25.0	25.8	26.4
8H	29.1	29.7	29.7	30.3	31.0	24.8	25.5	25.5	26.1	26.8
12H	30.4	30.9	31.0	31.6	32.3	25.1	25.7	25.8	26.3	27.1
12H 4H	26.0	26.8	26.6	27.4	28.0	23.8	24.6	24.4	25.1	25.8
6H	28.0	28.7	28.7	29.3	30.0	24.9	25.6	25.5	26.2	26.9
8H	29.3	29.8	29.9	30.5	31.2	25.5	26.0	26.1	26.7	27.4
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 5034 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.6)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	PROTECTION ANGLE:

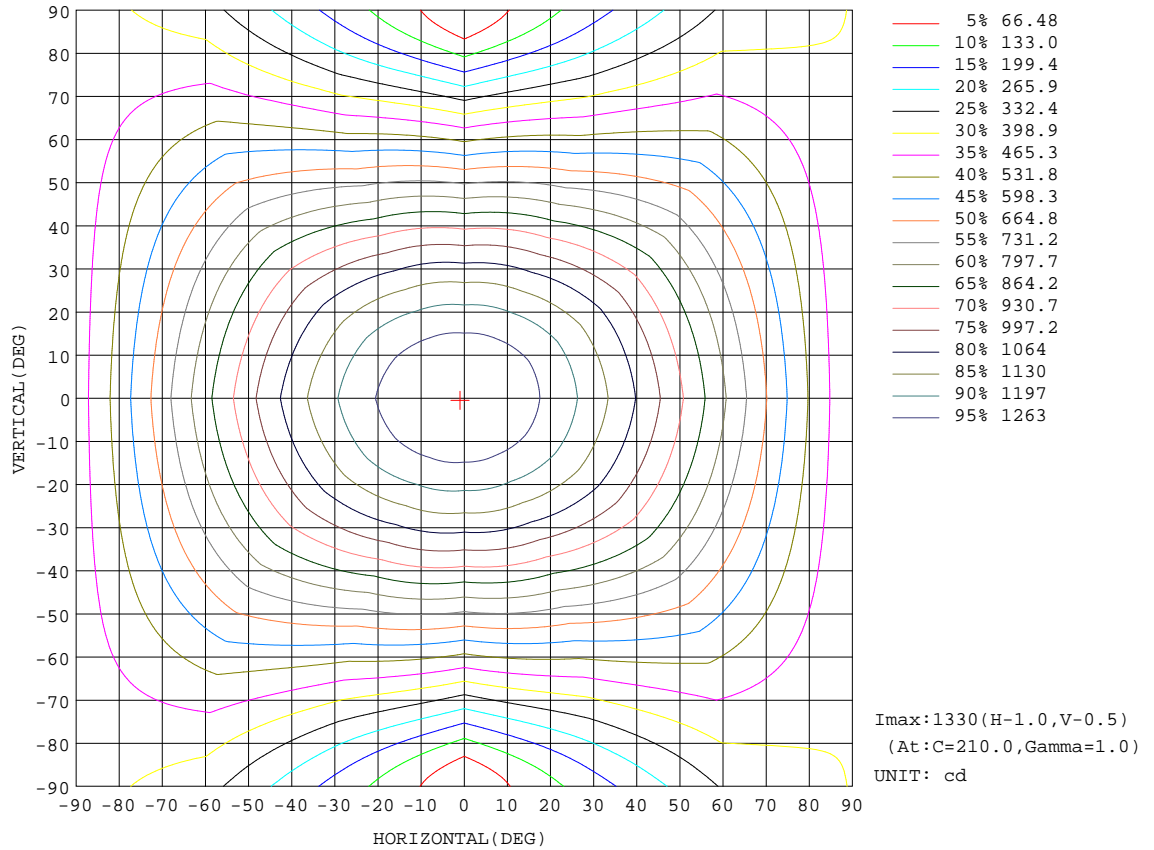
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	51	39	31	50	38	31	48	38	31	24
0.80	60	48	40	59	47	39	57	46	39	31
1.00	68	56	47	66	55	47	63	56	46	38
1.25	75	63	55	73	62	54	69	60	53	44
1.50	80	68	60	78	67	59	74	65	58	48
2.00	87	77	69	85	75	68	80	72	65	55
2.50	92	82	74	89	80	73	83	76	70	59
3.00	95	86	79	92	84	78	86	80	75	63
4.00	100	92	86	96	90	84	90	85	80	68
5.00	103	96	91	99	93	88	93	88	84	71
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:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	PROTECTION ANGLE:

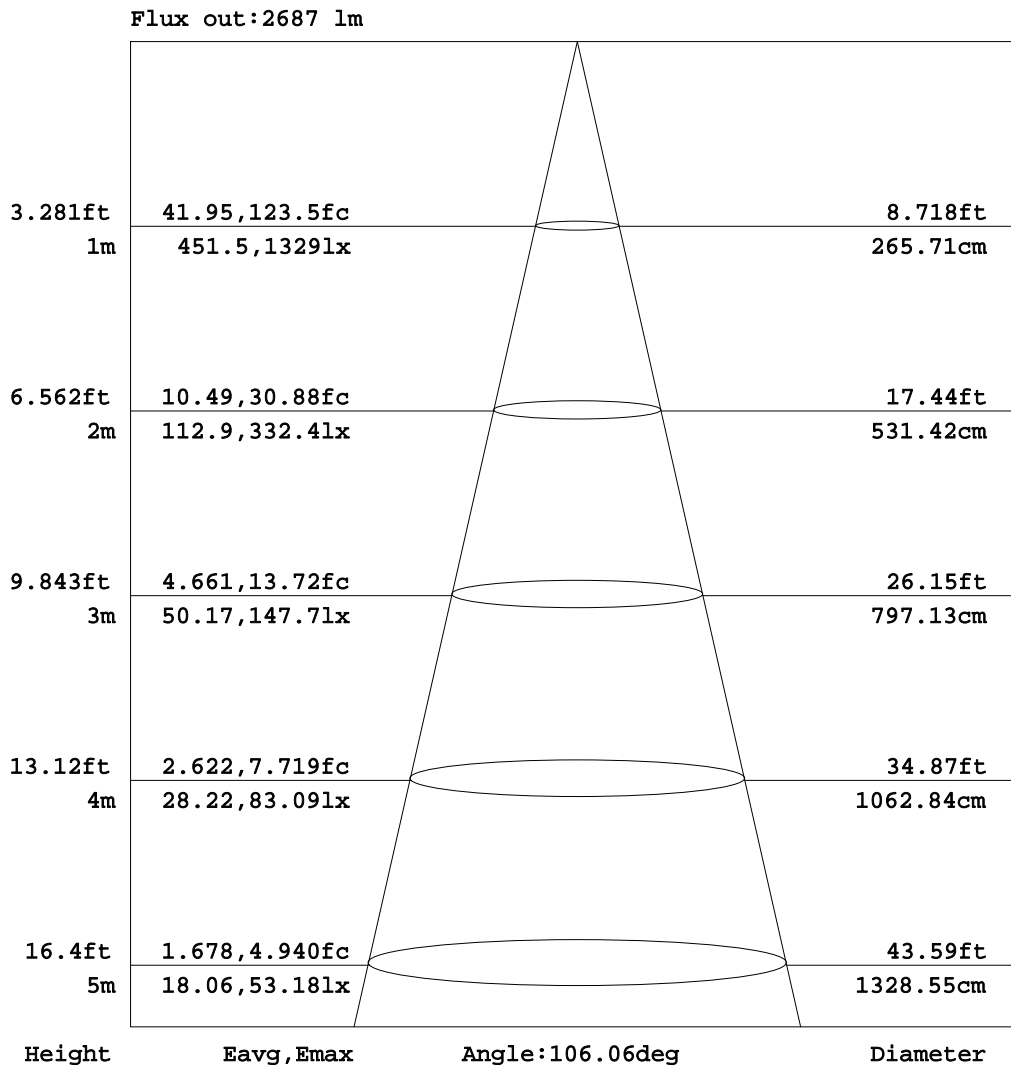


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

AAI Figure

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	PROTECTION ANGLE:



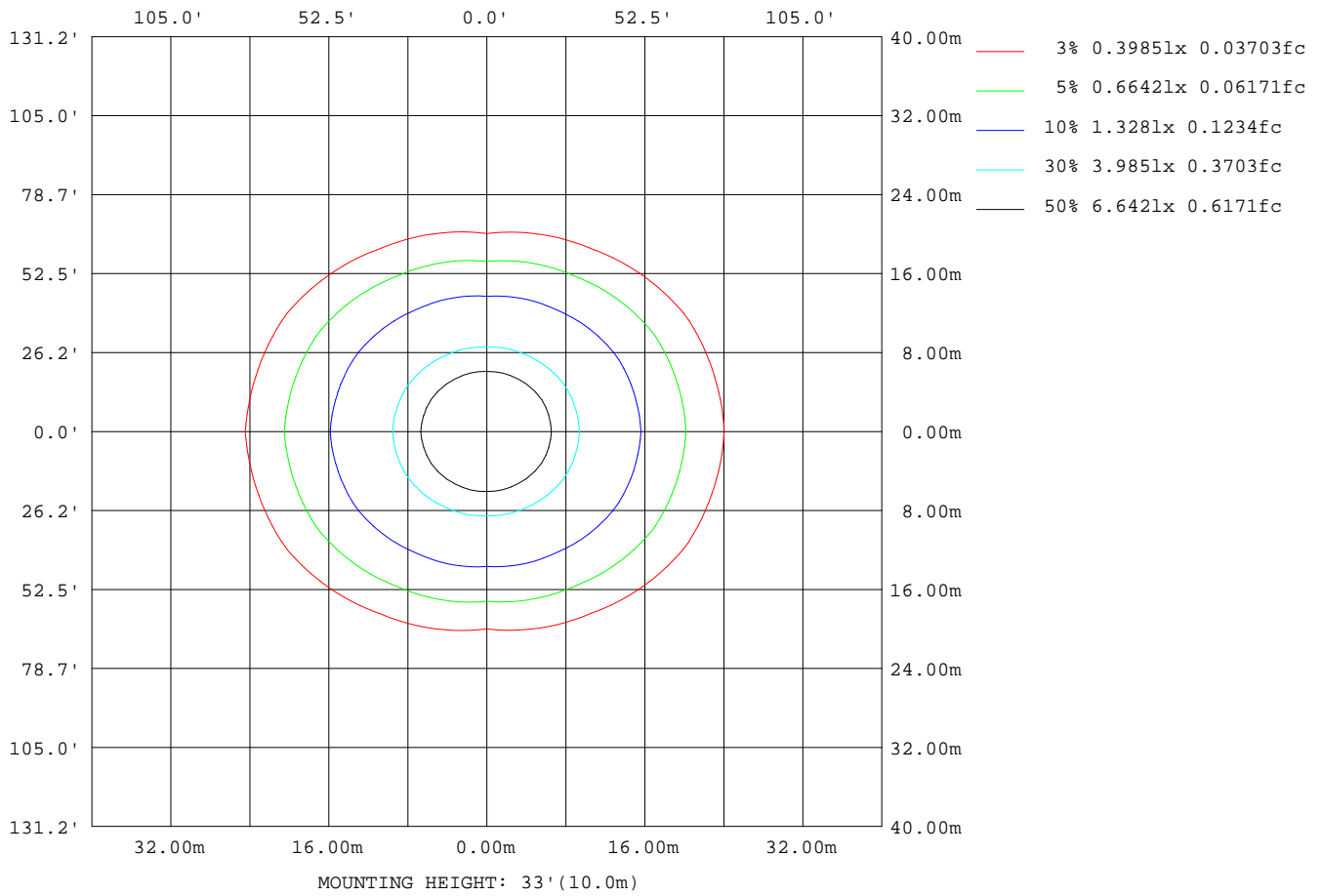
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

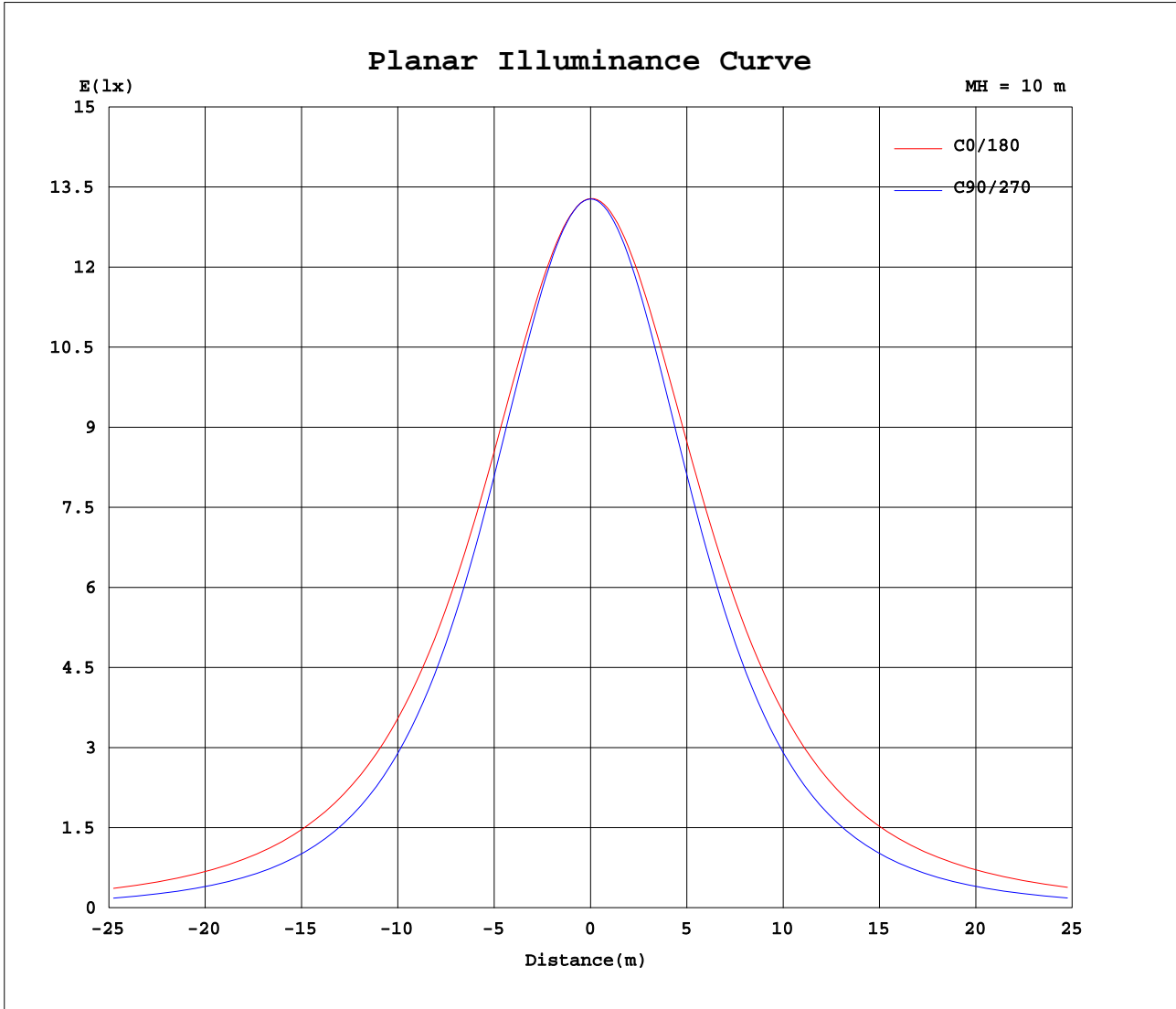
Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [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: 2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.443m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.0V I:0.1690A P:39.10W PF:0.9610 Lamp Flux:5033.81x1 lm		
NAME: 950-084	TYPE:38W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:1.53X0.085	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1328	1328	1328	1328	1328	1328	1328	1328	1328	1328	1328	1328							
5	1320	1321	1320	1320	1322	1324	1326	1325	1323	1321	1321	1322							
10	1303	1302	1299	1298	1302	1309	1314	1310	1304	1300	1301	1304							
15	1279	1274	1265	1262	1269	1284	1294	1286	1272	1264	1268	1277							
20	1246	1238	1219	1213	1225	1250	1266	1253	1229	1215	1223	1241							
25	1207	1193	1163	1151	1170	1208	1231	1211	1174	1154	1168	1196							
30	1162	1141	1097	1080	1105	1158	1190	1162	1111	1084	1102	1146							
35	1114	1084	1024	1000	1033	1102	1144	1106	1039	1003	1030	1089							
40	1060	1022	944	912	954	1042	1092	1046	960	916	951	1028							
45	1003	957	860	819	870	977	1036	982	876	823	867	962							
50	941	889	773	721	783	909	975	914	789	725	780	894							
55	876	817	685	620	695	838	911	843	701	624	693	822							
60	808	745	597	516	607	766	843	770	613	521	605	750							
65	738	672	511	412	521	693	774	697	527	417	519	677							
70	667	600	428	306	438	621	702	624	443	313	436	604							
75	596	529	351	206	360	550	631	553	365	212	358	533							
80	528	462	282	114	289	482	561	483	292	118	287	465							
85	462	398	221	41.4	228	417	493	419	230	44.3	225	401							
90	401	339	170	9.20	177	357	429	359	178	9.05	174	343							
95	346	287	130	8.89	135	302	370	304	136	8.78	134	290							
100	295	241	99.0	9.27	103	253	315	255	103	9.26	101	243							
105	248	199	74.2	9.90	77.6	210	266	211	77.7	9.84	75.9	201							
110	206	162	52.9	10.6	57.9	171	221	171	57.8	10.3	51.2	163							
115	168	130	36.8	11.2	42.6	138	181	137	42.4	11.0	36.6	131							
120	135	102	26.2	12.0	30.6	108	146	108	30.3	11.8	26.2	103							
125	106	76.0	19.2	12.7	21.9	83.2	115	82.8	21.3	12.7	19.4	75.6							
130	80.3	50.5	16.5	13.4	17.5	61.8	87.4	61.5	17.2	13.7	16.5	48.8							
135	58.6	35.5	16.7	14.4	17.5	43.8	64.1	43.5	17.4	14.8	16.6	35.0							
140	40.3	24.8	17.0	15.5	17.8	29.7	44.4	29.4	17.9	15.9	17.0	24.0							
145	26.4	19.8	17.6	16.6	18.3	21.2	29.2	21.2	18.5	17.0	17.7	19.6							
150	21.2	19.7	18.3	17.7	18.9	20.4	21.6	20.6	19.1	18.0	18.5	19.5							
155	21.0	19.8	18.9	18.6	19.5	20.5	21.3	20.7	19.7	18.9	19.1	19.9							
160	21.0	20.0	19.4	19.3	20.0	20.7	21.1	20.8	20.2	19.6	19.6	20.1							
165	21.2	20.2	19.8	20.1	20.4	20.9	21.4	21.0	20.5	20.3	20.0	20.3							
170	21.3	20.5	20.4	20.8	20.8	21.0	21.4	21.1	20.9	20.9	20.4	20.5							
175	21.1	20.7	21.0	21.3	21.2	21.1	21.2	21.1	21.3	21.3	21.1	20.7							
180	21.0	21.2	21.4	21.5	21.4	21.2	21.1	21.2	21.4	21.5	21.4	21.2							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks: