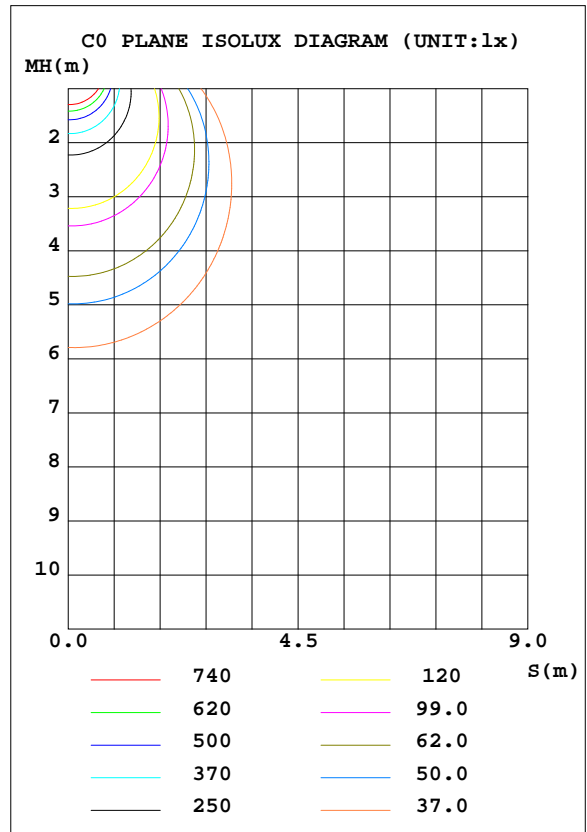
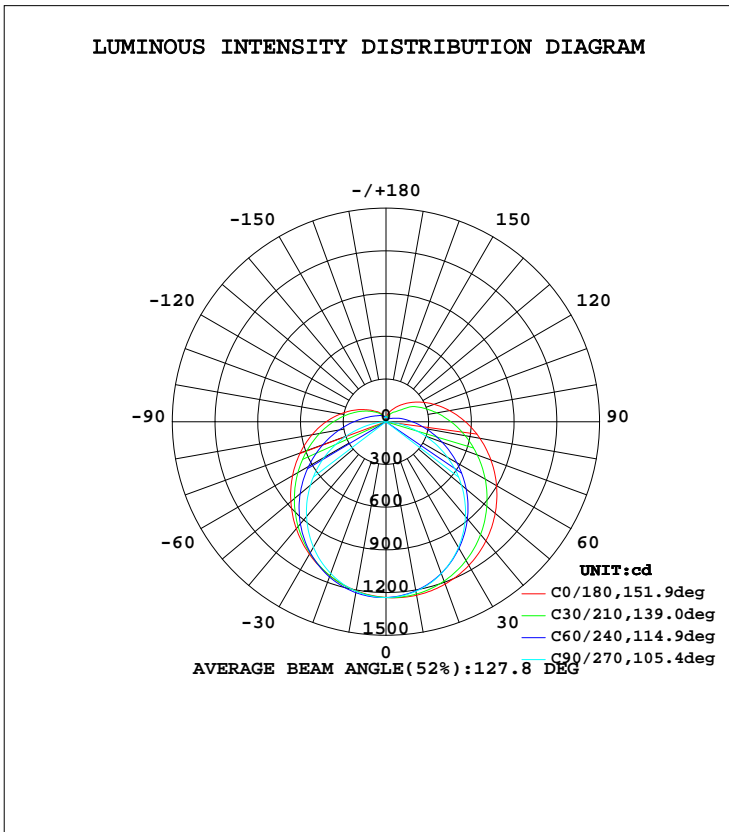


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 123.09 lm/W			
MODEL	950-095	I _{max} (cd)	1239	S/MH(C0/180)	1.41
NOMINAL POWER(W)	44	LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	5256.0	η UP, DN(C0-180)	9.2, 43.6
NOMINAL FLUX(lm)	5255.96	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	6.9, 40.3
LAMPS INSIDE	1	η up(%)	16.1	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	230.1	η down(%)	83.9	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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	lum, lamp
10	1237	1217	1209	1228	1206	1213	1209	1202	0- 10	116.9	116.9	2.22,2.22
20	1213	1162	1135	1184	1152	1155	1135	1133	10- 20	336.4	453.4	8.63,8.63
30	1164	1075	1019	1106	1075	1065	1018	1033	20- 30	515.6	968.9	18.4,18.4
40	1092	961.6	868.1	998.9	980.1	948.1	868.4	908.9	30- 40	635.2	1604	30.5,30.5
50	1001	829.8	692.3	871.2	872.6	813.8	693.3	770.1	40- 50	686.0	2290	43.6,43.6
60	896.3	689.4	499.0	732.1	757.7	671.3	500.8	626.2	50- 60	669.2	2959	56.3,56.3
70	783.9	550.9	295.9	591.6	641.2	531.1	299.5	487.3	60- 70	595.9	3555	67.6,67.6
80	669.3	425.4	106.8	461.8	527.5	403.2	109.5	363.2	70- 80	485.8	4041	76.9,76.9
90	557.9	321.1	4.982	351.9	420.7	297.7	5.435	263.9	80- 90	368.0	4409	83.9,83.9
100	453.8	242.4	6.668	266.1	322.8	217.5	7.233	190.3	90-100	275.2	4684	89.1,89.1
110	359.6	178.4	9.698	201.7	239.5	159.4	10.62	134.9	100-110	201.6	4886	93,93
120	277.2	131.9	13.05	154.0	170.7	117.4	14.33	95.71	110-120	141.7	5027	95.7,95.7
130	207.6	82.20	16.44	118.1	123.2	88.47	18.14	60.34	120-130	94.37	5122	97.4,97.4
140	150.2	60.94	20.91	90.69	92.48	68.40	22.64	43.61	130-140	60.10	5182	98.6,98.6
150	106.0	47.95	25.48	70.20	63.73	52.92	27.03	35.10	140-150	37.98	5220	99.3,99.3
160	73.12	38.01	29.58	54.16	42.00	41.58	30.88	29.42	150-160	21.89	5242	99.7,99.7
170	42.22	34.23	32.77	41.81	29.73	35.01	33.72	29.90	160-170	10.99	5253	99.9,99.9
180	27.75	33.34	34.65	33.73	27.79	32.94	34.83	33.81	170-180	3.232	5256	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

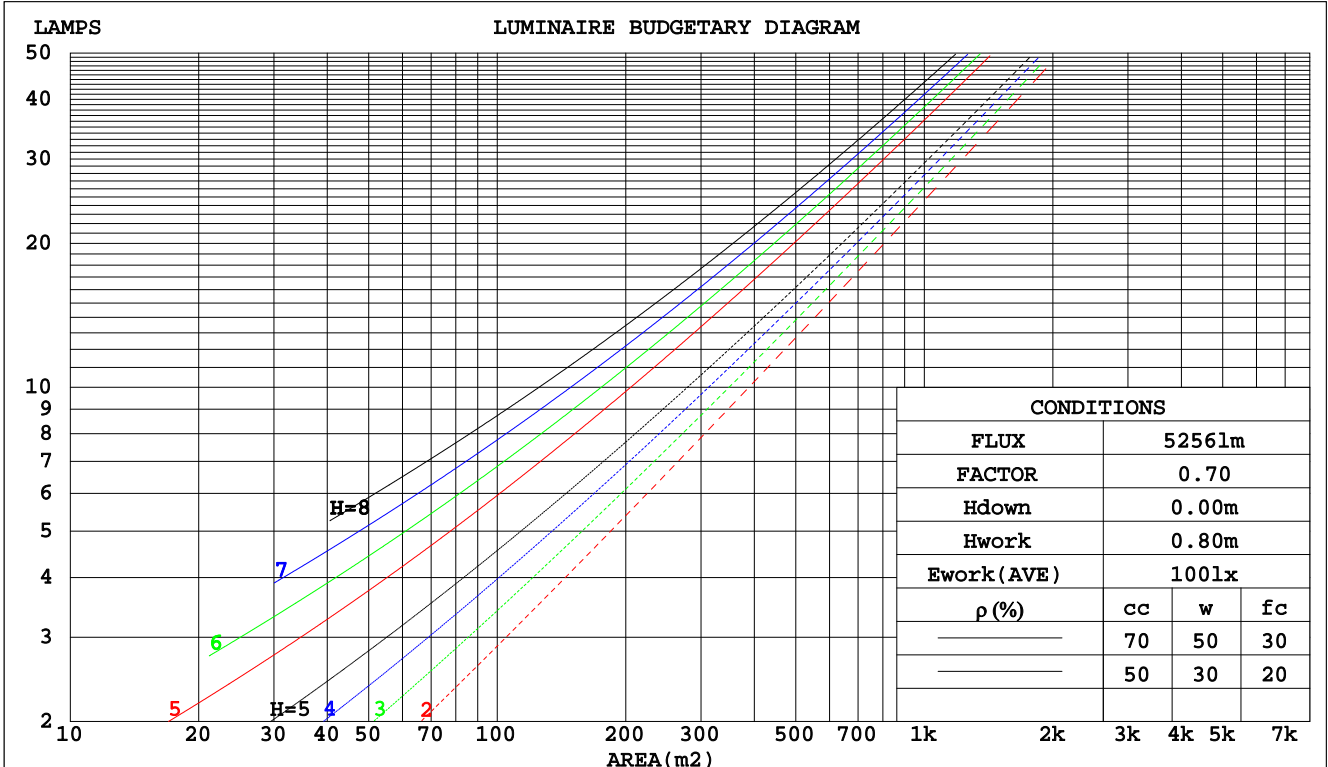
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	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	1.15	1.15	1.15	1.11	1.11	1.11	1.02	1.02	1.02	.94	.94	.94	.87	.87	.87	.84
1.0	.96	.91	.86	.93	.88	.84	.85	.81	.78	.79	.75	.73	.72	.70	.68	.64
2.0	.83	.75	.68	.79	.72	.66	.73	.67	.62	.67	.63	.58	.62	.58	.55	.52
3.0	.72	.63	.56	.69	.61	.54	.64	.57	.51	.59	.53	.48	.54	.49	.45	.42
4.0	.63	.54	.47	.61	.52	.45	.56	.49	.43	.52	.46	.41	.48	.43	.38	.36
5.0	.56	.47	.40	.54	.45	.39	.50	.43	.37	.46	.40	.35	.43	.37	.33	.30
6.0	.50	.41	.34	.48	.40	.33	.45	.37	.32	.42	.35	.30	.39	.33	.29	.26
7.0	.45	.36	.30	.44	.35	.29	.41	.33	.28	.38	.31	.27	.35	.30	.25	.23
8.0	.41	.33	.27	.40	.32	.26	.37	.30	.25	.35	.28	.24	.32	.27	.23	.21
9.0	.38	.29	.24	.37	.29	.23	.34	.27	.22	.32	.26	.21	.30	.24	.20	.18
10.0	.35	.27	.21	.34	.26	.21	.32	.25	.20	.30	.24	.19	.28	.22	.18	.17



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	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	.378	.215	.068	.366	.209	.066	.343	.197	.063	.322	.186	.060	.303	.176	.057	
2.0	.329	.180	.055	.318	.175	.054	.298	.166	.051	.279	.156	.049	.261	.148	.047	
3.0	.293	.156	.047	.283	.152	.046	.265	.144	.044	.248	.136	.042	.232	.128	.040	
4.0	.265	.137	.040	.256	.134	.040	.239	.127	.038	.223	.120	.036	.209	.113	.035	
5.0	.241	.123	.036	.233	.120	.035	.218	.113	.033	.203	.107	.032	.190	.102	.031	
6.0	.221	.111	.032	.214	.108	.031	.200	.102	.030	.187	.097	.029	.175	.092	.027	
7.0	.204	.101	.029	.197	.098	.028	.185	.093	.027	.173	.089	.026	.162	.084	.025	
8.0	.189	.092	.026	.183	.090	.025	.172	.086	.024	.161	.081	.023	.150	.077	.022	
9.0	.176	.085	.024	.171	.083	.023	.160	.079	.022	.150	.075	.022	.141	.071	.021	
10.0	.165	.079	.022	.160	.077	.022	.150	.074	.021	.141	.070	.020	.132	.066	.019	

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	.313	.313	.313	.268	.268	.268	.183	.183	.183	.105	.105	.105	.034	.034	.034	
1.0	.309	.279	.253	.264	.240	.218	.181	.165	.150	.104	.095	.087	.033	.031	.028	
2.0	.302	.256	.218	.259	.221	.189	.177	.153	.132	.102	.089	.077	.033	.029	.025	
3.0	.294	.240	.196	.252	.207	.170	.173	.144	.119	.100	.084	.070	.032	.027	.023	
4.0	.286	.227	.182	.246	.196	.158	.169	.137	.111	.098	.080	.066	.031	.026	.022	
5.0	.279	.217	.172	.239	.188	.150	.165	.131	.106	.096	.077	.063	.031	.025	.021	
6.0	.271	.209	.165	.233	.181	.143	.161	.127	.102	.093	.075	.060	.030	.024	.020	
7.0	.264	.203	.159	.227	.176	.139	.157	.123	.098	.091	.073	.059	.029	.024	.019	
8.0	.258	.197	.155	.222	.171	.136	.153	.120	.096	.089	.071	.057	.029	.023	.019	
9.0	.251	.192	.152	.217	.167	.133	.150	.117	.094	.087	.069	.056	.028	.023	.019	
10.0	.246	.188	.150	.212	.163	.131	.147	.115	.093	.086	.068	.055	.028	.022	.018	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm										
NAME: 950-095					TYPE:45W			WEIGHT:		
DIM.:					SPEC.:5000K			SERIAL No.:1		
MFR.: Tronix Lighting					SUR.:0.1125			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	21.8	23.1	22.2	23.6	24.1	19.2	20.6	19.7	21.1	21.6
3H	24.4	25.7	24.9	26.2	26.8	20.6	21.9	21.2	22.4	23.0
4H	25.9	27.1	26.4	27.7	28.2	21.2	22.4	21.8	23.0	23.5
6H	27.6	28.7	28.1	29.2	29.9	21.6	22.7	22.1	23.3	23.9
8H	28.5	29.6	29.0	30.1	30.8	21.7	22.8	22.3	23.4	24.0
12H	29.5	30.6	30.1	31.2	31.8	21.7	22.8	22.3	23.4	24.0
4H 2H	22.2	23.5	22.8	24.0	24.6	20.3	21.6	20.9	22.1	22.7
3H	25.2	26.3	25.8	26.8	27.5	22.0	23.1	22.6	23.6	24.3
4H	26.9	27.8	27.5	28.4	29.1	22.7	23.7	23.3	24.3	25.0
6H	28.7	29.6	29.4	30.2	30.9	23.3	24.2	23.9	24.8	25.5
8H	29.8	30.6	30.4	31.2	32.0	23.5	24.3	24.1	25.0	25.7
12H	31.0	31.7	31.6	32.4	33.1	23.6	24.4	24.3	25.0	25.8
8H 4H	27.2	28.0	27.8	28.6	29.3	23.9	24.7	24.5	25.3	26.0
6H	29.3	30.0	30.0	30.7	31.5	24.8	25.5	25.4	26.1	26.9
8H	30.6	31.2	31.3	31.9	32.7	25.1	25.8	25.8	26.5	27.2
12H	32.1	32.6	32.8	33.3	34.1	25.4	26.0	26.1	26.7	27.5
12H 4H	27.2	27.9	27.8	28.6	29.3	24.3	25.0	24.9	25.7	26.4
6H	29.4	30.1	30.1	30.7	31.5	25.4	26.0	26.1	26.7	27.5
8H	30.8	31.3	31.5	32.0	32.9	26.0	26.5	26.7	27.2	28.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 5256 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.8)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	PROTECTION ANGLE:

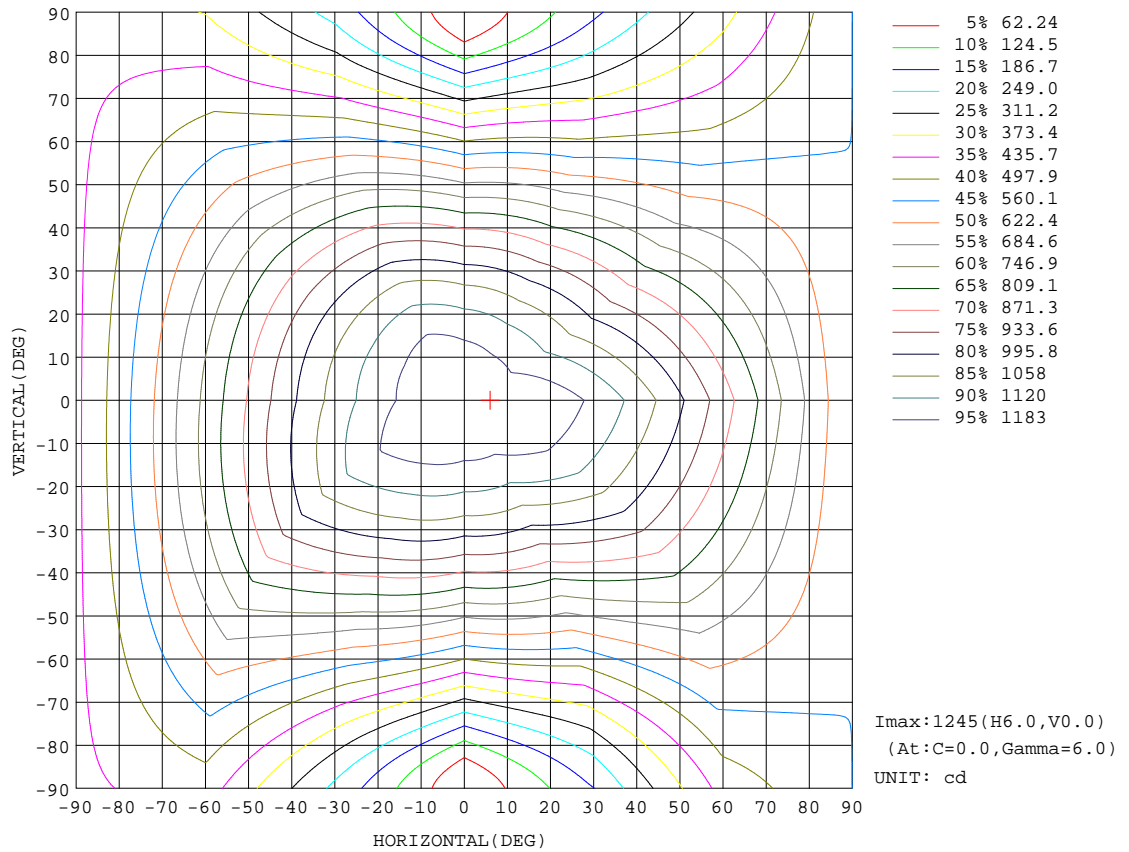
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	49	37	29	48	36	29	46	35	29	22
0.80	58	45	37	57	45	37	54	43	36	28
1.00	66	53	45	64	52	44	61	53	43	35
1.25	73	60	52	71	59	51	66	57	50	40
1.50	78	66	57	75	64	57	71	61	55	44
2.00	85	74	66	82	72	65	77	69	62	51
2.50	90	80	72	86	77	70	80	73	67	55
3.00	93	84	77	90	82	75	83	77	71	58
4.00	98	90	84	94	87	81	87	82	77	63
5.00	101	94	88	97	91	86	90	85	81	66
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:2019-09-24

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:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	PROTECTION ANGLE:

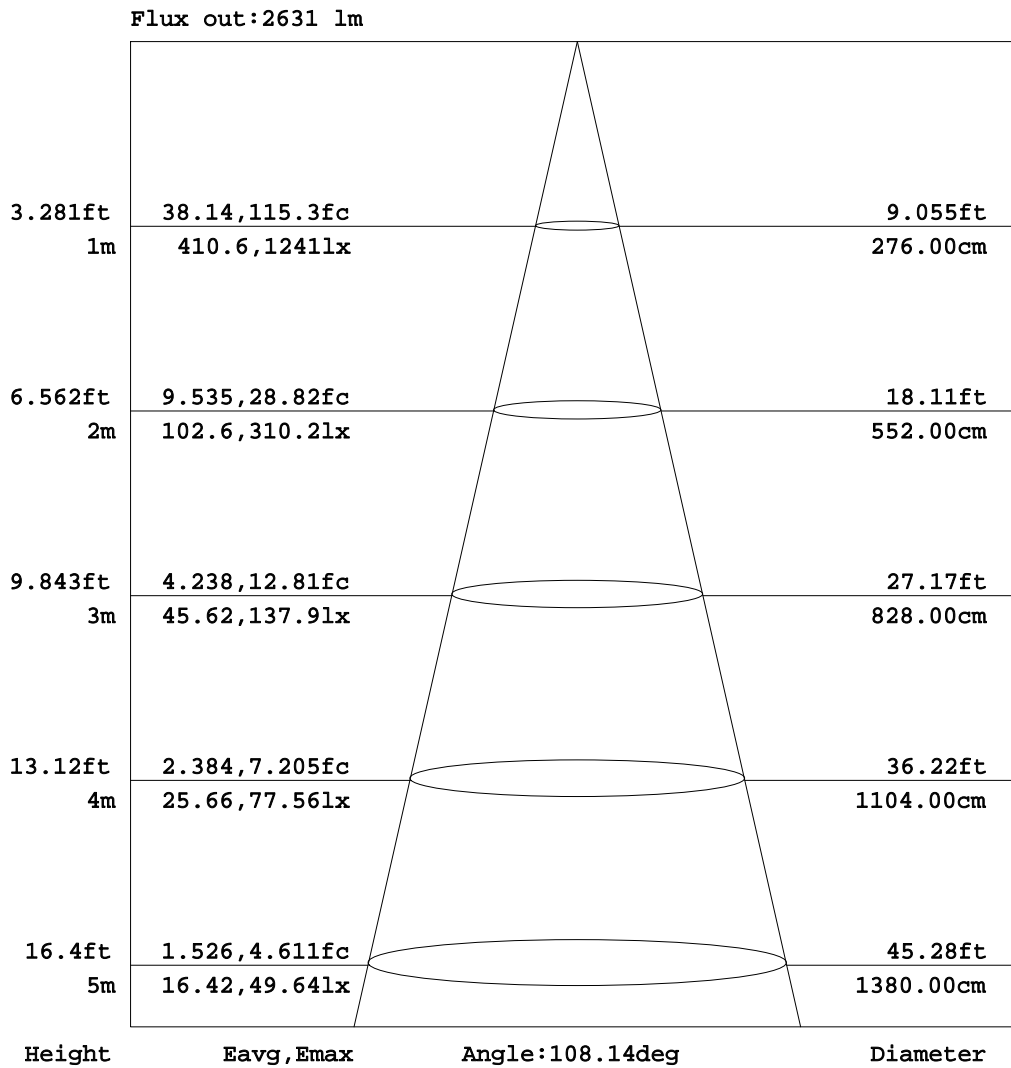


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	PROTECTION ANGLE:



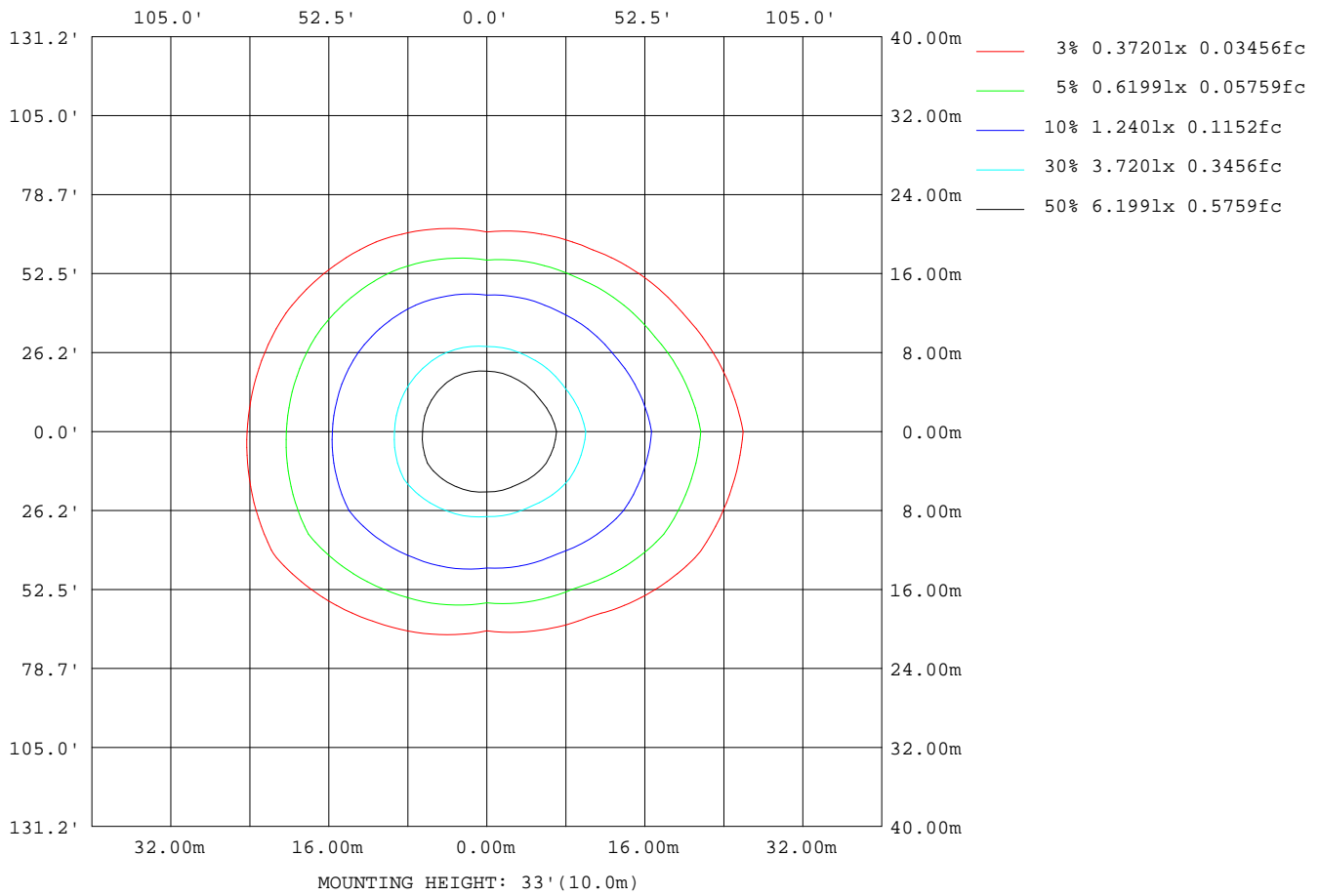
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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

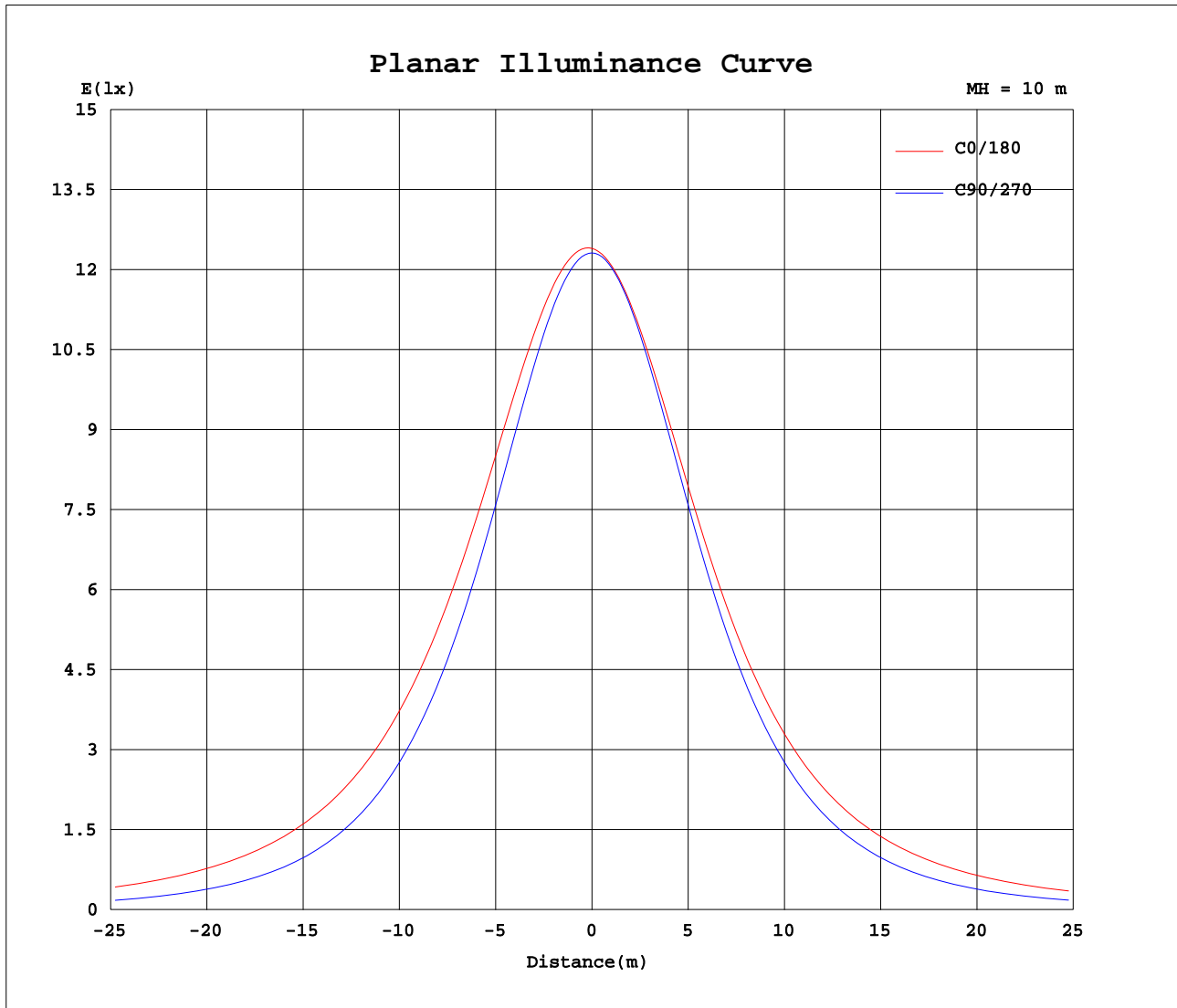
Test:U:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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: 2019-09-24

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:230.1V I:0.1890A P:42.70W PF:0.9830 Lamp Flux:5255.96x1 lm		
NAME: 950-095	TYPE:45W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:1
MFR.: Tronix Lighting	SUR.:0.1125	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG)\ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234	1234							
5	1239	1236	1225	1228	1234	1239	1223	1225	1232	1228	1224	1222							
10	1237	1229	1205	1209	1222	1234	1206	1208	1219	1209	1202	1202							
15	1229	1214	1174	1178	1200	1222	1182	1183	1195	1178	1170	1174							
20	1213	1191	1134	1135	1166	1202	1152	1151	1160	1135	1127	1139							
25	1192	1161	1084	1082	1123	1175	1116	1112	1116	1081	1076	1097							
30	1164	1125	1026	1019	1072	1140	1075	1066	1063	1018	1017	1049							
35	1131	1082	961	947	1012	1099	1029	1016	1002	947	950	996							
40	1092	1034	890	868	946	1052	980	960	936	868	879	939							
45	1049	981	814	783	874	1000	928	902	863	783	802	879							
50	1001	924	735	692	798	944	873	840	787	693	723	817							
55	950	865	655	597	720	885	816	778	708	599	643	754							
60	896	804	574	499	640	825	758	714	628	501	562	690							
65	841	743	495	398	560	763	699	652	549	400	483	628							
70	784	682	420	296	483	701	641	590	472	300	408	567							
75	726	622	349	197	410	640	584	530	400	201	336	509							
80	669	565	286	107	343	580	528	473	333	109	273	453							
85	613	509	231	35.7	285	523	473	419	275	37.6	219	402							
90	558	457	185	4.98	235	469	421	369	226	5.43	175	353							
95	505	408	149	5.43	195	417	371	323	186	5.97	139	309							
100	454	363	121	6.67	162	370	323	281	154	7.23	112	269							
105	405	320	96.8	8.14	137	325	279	243	130	8.87	90.0	233							
110	360	282	75.0	9.70	118	285	239	208	110	10.6	69.4	200							
115	317	247	59.0	11.4	103	249	203	177	95.6	12.5	54.9	171							
120	277	214	49.3	13.1	91.4	217	171	151	83.9	14.3	45.5	146							
125	241	166	42.3	14.7	81.9	188	145	128	74.7	16.2	39.2	115							
130	208	127	37.5	16.4	74.4	162	123	109	68.1	18.1	34.5	86.2							
135	177	104	33.6	18.6	68.3	139	105	93.4	62.4	20.3	31.1	69.3							
140	150	89.8	32.0	20.9	63.1	118	92.5	79.4	57.4	22.6	29.3	57.9							
145	127	78.5	31.1	23.2	58.6	101	77.6	67.2	53.0	24.9	28.5	49.8							
150	106	65.8	30.1	25.5	54.2	86.2	63.7	56.9	49.0	27.0	27.7	42.5							
155	88.2	55.0	29.2	27.6	48.9	73.9	52.7	48.4	44.4	29.1	26.9	36.1							
160	73.1	46.9	29.1	29.6	45.2	63.2	42.0	42.3	40.8	30.9	27.6	31.2							
165	60.6	42.5	29.8	31.3	41.9	52.7	36.4	37.6	38.1	32.5	29.1	28.6							
170	42.2	37.9	30.6	32.8	39.1	44.5	29.7	34.0	36.0	33.7	31.0	28.8							
175	33.4	35.4	31.6	33.9	36.6	37.7	26.7	32.8	34.2	34.5	32.7	29.9							
180	27.7	33.5	33.2	34.7	34.7	32.7	27.8	32.8	33.1	34.8	34.7	32.9							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-09-24

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: