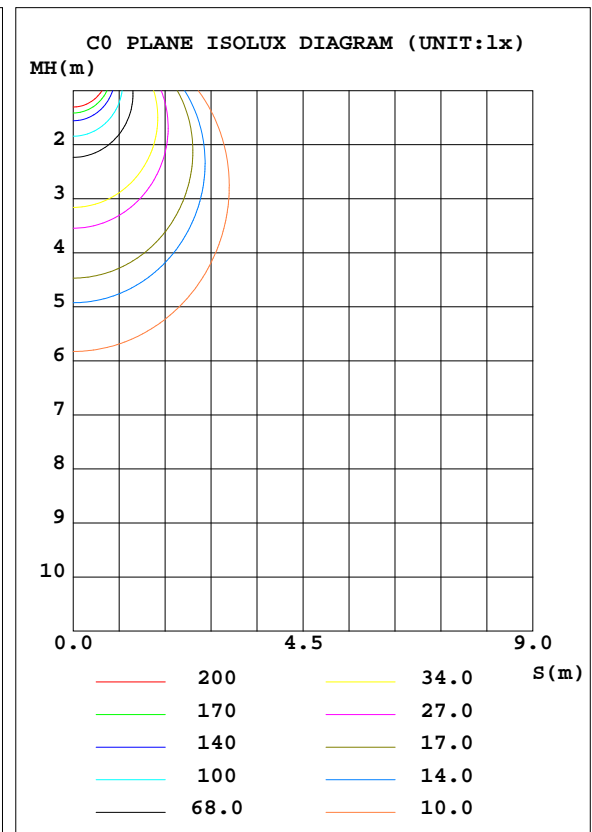
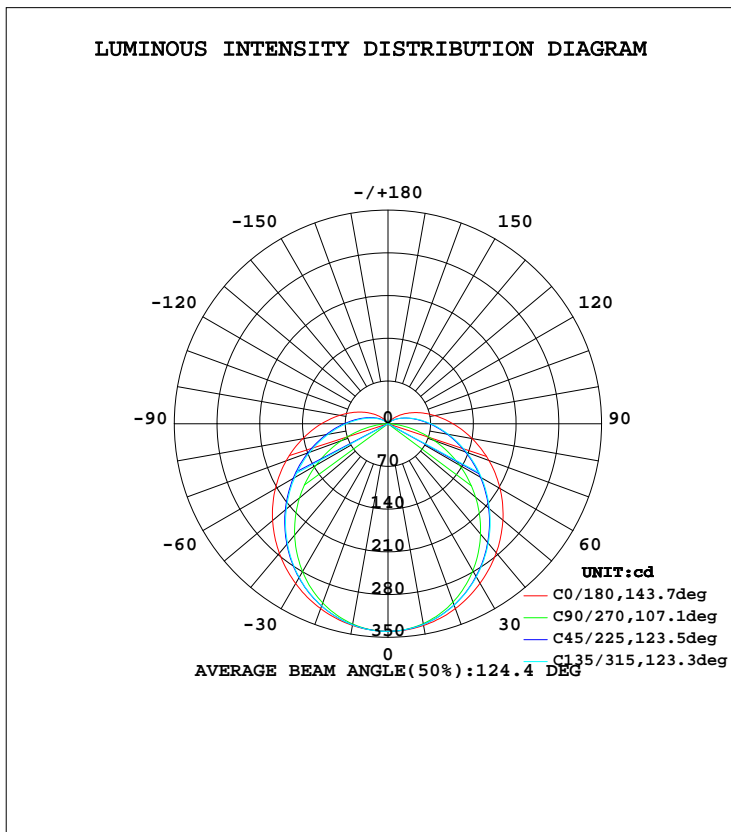


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 124.18 lm/W			
MODEL	950-080	I <sub>max</sub> (cd)	340.2	S/MH(C0/180)	1.33
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1291.4	η UP, DN(C0-180)	5.5, 44.8
NOMINAL FLUX(lm)	1291.42	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	5.3, 44.4
LAMPS INSIDE	1	η up(%)	10.8	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	240.1	η down(%)	89.2	CIBSE SHR MAX	1.50



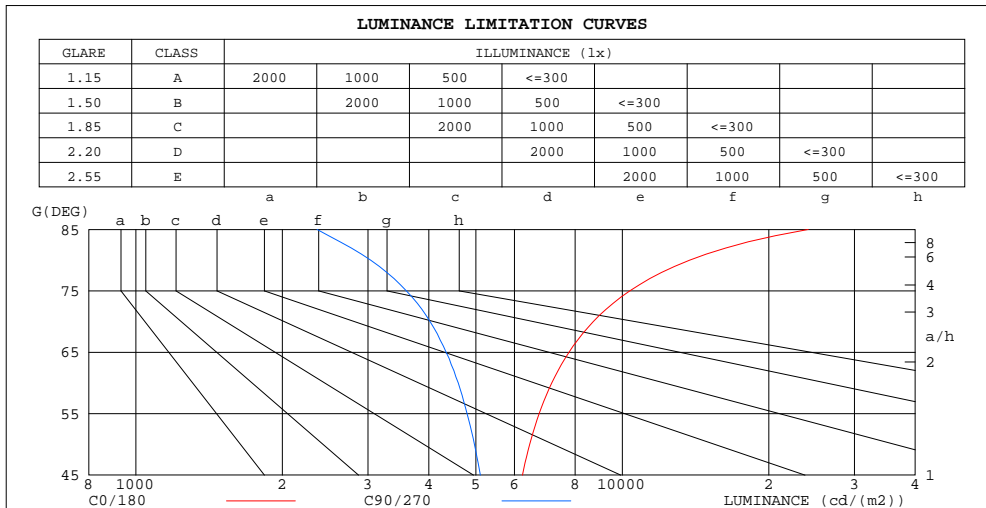
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-05-21

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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum,lamp
10	335.6	334.6	333.3	334.7	335.7	333.8	332.6	333.9	0- 10	32.19	32.19	2.49,2.49
20	322.5	317.9	312.6	317.7	322.4	316.1	311.2	316.5	10- 20	92.31	124.5	9.64,9.64
30	302.5	291.5	279.9	290.9	301.8	288.8	277.9	289.6	20- 30	140.5	265.0	20.5,20.5
40	277.0	257.9	237.9	256.3	276.0	254.2	235.9	255.5	30- 40	171.6	436.6	33.8,33.8
50	246.9	219.7	189.4	217.5	245.7	215.5	187.5	217.2	40- 50	183.2	619.9	48,48
60	213.1	179.5	136.5	176.6	212.0	174.9	134.9	176.8	50- 60	176.0	795.9	61.6,61.6
70	177.5	139.7	81.70	136.4	176.0	135.2	80.77	137.2	60- 70	152.8	948.7	73.5,73.5
80	142.1	103.0	31.32	99.36	139.9	98.68	31.06	100.8	70- 80	119.1	1068	82.7,82.7
90	109.2	72.06	2.739	68.46	106.6	68.36	2.760	70.20	80- 90	83.65	1151	89.2,89.2
100	80.37	47.96	2.065	44.82	77.84	45.00	2.080	46.42	90-100	57.34	1209	93.6,93.6
110	55.76	29.89	2.297	27.36	53.53	27.70	2.277	27.82	100-110	37.55	1246	96.5,96.5
120	35.54	16.91	2.571	15.09	33.82	15.40	2.473	15.69	110-120	22.37	1269	98.2,98.2
130	19.76	8.182	2.881	7.140	18.58	7.283	2.734	7.438	120-130	11.69	1280	99.1,99.1
140	8.865	4.004	3.154	4.089	8.106	3.907	2.889	3.684	130-140	5.209	1286	99.5,99.5
150	4.222	3.821	3.492	4.026	4.235	3.772	3.176	3.444	140-150	2.593	1288	99.7,99.7
160	4.102	3.871	3.829	4.138	4.102	3.800	3.534	3.591	150-160	1.763	1290	99.9,99.9
170	4.236	4.096	4.089	4.201	4.074	3.892	3.823	3.843	160-170	1.119	1291	100,100
180	4.377	4.230	4.223	4.208	4.356	4.223	4.209	4.222	170-180	0.3938	1291	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	24108	2358
80	13743	3039
75	10357	3600
70	8715	4024
65	7771	4344
60	7159	4599
55	6746	4795
50	6451	4964
45	6233	5107

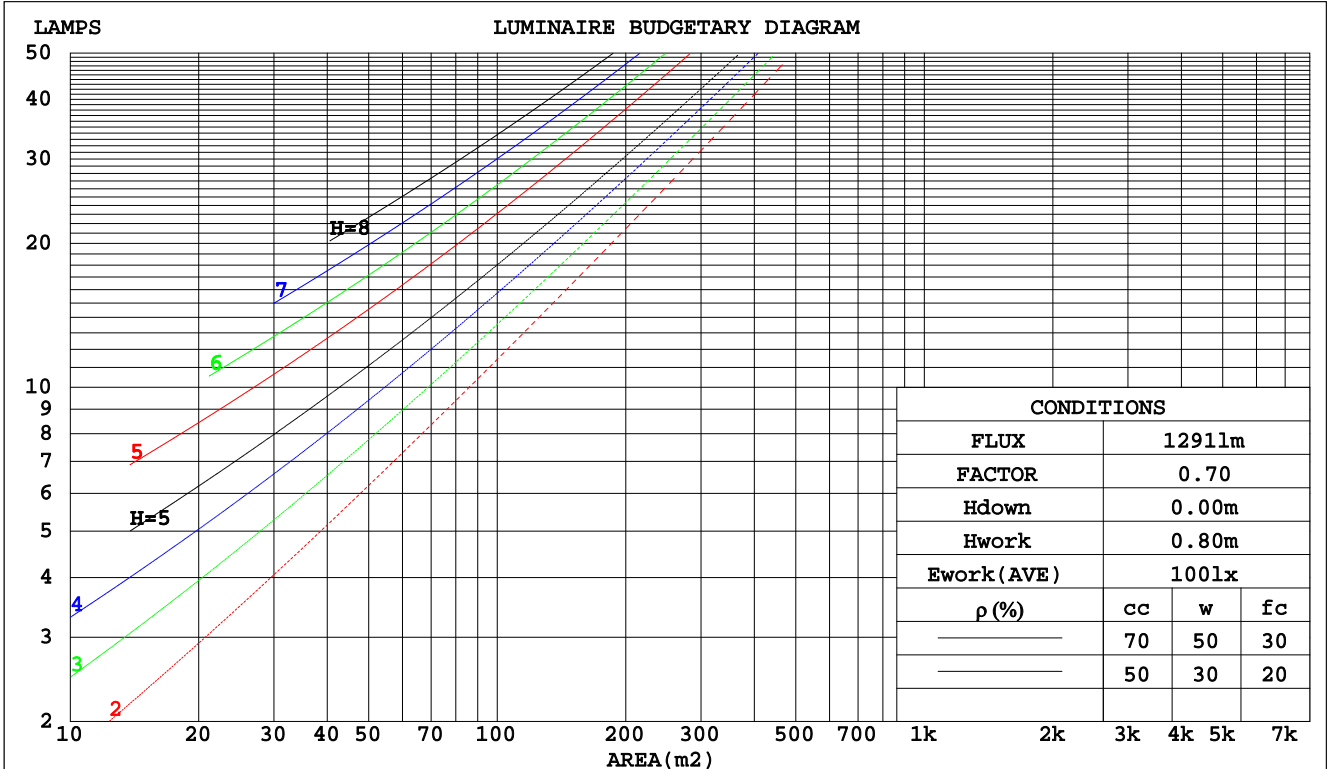
C Range: 0 - 360DEG  
C Interval: 45.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	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	.85	.81	.83	.79	.77	.77	.75	.72	.69
2.0	.84	.77	.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	.65	.55	.48	.62	.54	.47	.58	.51	.45	.55	.49	.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	.33	.42	.36	.31	.29
7.0	.47	.37	.31	.45	.37	.31	.43	.35	.30	.40	.34	.29	.38	.32	.28	.26
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	.28	.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: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022-05-21

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:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	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	.063	.323	.186	.060	.307	.178	.057	
2.0	.326	.179	.055	.317	.175	.054	.299	.166	.052	.283	.159	.050	.268	.151	.048	
3.0	.292	.155	.047	.284	.152	.046	.268	.145	.044	.253	.139	.043	.239	.132	.041	
4.0	.264	.137	.040	.257	.134	.040	.242	.128	.038	.229	.123	.037	.216	.118	.036	
5.0	.241	.123	.036	.234	.120	.035	.221	.115	.034	.209	.110	.033	.198	.106	.032	
6.0	.221	.111	.032	.215	.109	.031	.203	.104	.030	.192	.100	.029	.182	.096	.028	
7.0	.204	.101	.029	.199	.099	.028	.188	.095	.027	.178	.091	.027	.169	.088	.026	
8.0	.190	.093	.026	.185	.091	.026	.175	.087	.025	.166	.084	.024	.157	.081	.024	
9.0	.177	.086	.024	.172	.084	.024	.163	.081	.023	.155	.078	.022	.147	.075	.022	
10.0	.166	.080	.022	.162	.078	.022	.153	.075	.021	.146	.072	.021	.138	.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	.273	.273	.273	.233	.233	.233	.159	.159	.159	.092	.092	.092	.029	.029	.029	
1.0	.268	.239	.213	.229	.205	.183	.157	.141	.127	.090	.082	.074	.029	.026	.024	
2.0	.261	.216	.178	.223	.186	.154	.153	.128	.107	.088	.075	.063	.028	.024	.020	
3.0	.253	.199	.155	.217	.171	.135	.149	.119	.095	.086	.070	.056	.028	.023	.018	
4.0	.245	.186	.141	.210	.161	.122	.145	.112	.086	.084	.066	.051	.027	.021	.017	
5.0	.237	.176	.131	.204	.152	.114	.140	.106	.080	.081	.062	.048	.026	.020	.016	
6.0	.230	.168	.123	.198	.145	.107	.136	.102	.076	.079	.060	.045	.026	.020	.015	
7.0	.223	.161	.118	.192	.140	.103	.132	.098	.073	.077	.058	.043	.025	.019	.014	
8.0	.216	.156	.114	.186	.135	.099	.129	.095	.070	.075	.056	.042	.024	.018	.014	
9.0	.210	.151	.111	.181	.131	.096	.125	.092	.068	.073	.054	.041	.024	.018	.014	
10.0	.204	.146	.108	.176	.127	.094	.122	.089	.067	.071	.053	.040	.023	.017	.013	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-05-21

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:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm										
NAME: 950-080					TYPE:10W			WEIGHT:		
DIM.:					SPEC.:5000K			SERIAL No.:		
MFR.: Tronix Lighting					SUR.:0.0594			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	19.0	20.5	19.4	20.9	21.3	17.5	19.0	17.9	19.4	19.8
3H	21.5	22.8	21.9	23.2	23.7	19.0	20.3	19.5	20.8	21.2
4H	22.8	24.1	23.3	24.5	25.0	19.6	20.9	20.1	21.3	21.8
6H	24.3	25.5	24.8	26.0	26.5	20.0	21.2	20.5	21.7	22.2
8H	25.1	26.3	25.6	26.7	27.3	20.1	21.3	20.6	21.7	22.3
12H	26.0	27.2	26.5	27.6	28.2	20.2	21.3	20.7	21.8	22.3
4H 2H	19.6	20.9	20.1	21.3	21.8	18.5	19.8	19.0	20.2	20.7
3H	22.3	23.4	22.8	23.9	24.4	20.3	21.4	20.8	21.9	22.4
4H	23.8	24.8	24.3	25.3	25.9	21.1	22.1	21.6	22.6	23.2
6H	25.5	26.4	26.0	26.9	27.5	21.7	22.6	22.2	23.1	23.7
8H	26.4	27.2	27.0	27.8	28.4	21.9	22.7	22.4	23.3	23.9
12H	27.5	28.3	28.0	28.8	29.5	22.0	22.8	22.6	23.4	24.0
8H 4H	24.1	25.0	24.7	25.5	26.2	21.9	22.8	22.5	23.3	24.0
6H	26.1	26.8	26.7	27.4	28.0	22.9	23.6	23.5	24.2	24.9
8H	27.2	27.8	27.8	28.4	29.1	23.3	24.0	23.9	24.6	25.3
12H	28.5	29.1	29.1	29.7	30.4	23.6	24.2	24.3	24.8	25.5
12H 4H	24.2	24.9	24.7	25.5	26.2	22.2	23.0	22.7	23.5	24.2
6H	26.2	26.8	26.8	27.4	28.1	23.3	24.0	24.0	24.6	25.3
8H	27.4	28.0	28.0	28.6	29.3	23.9	24.5	24.6	25.1	25.8
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 1291 lm Total Lamp Luminous Flux.(8log(F/F0) = 0.9)

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-05-21

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:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	PROTECTION ANGLE:

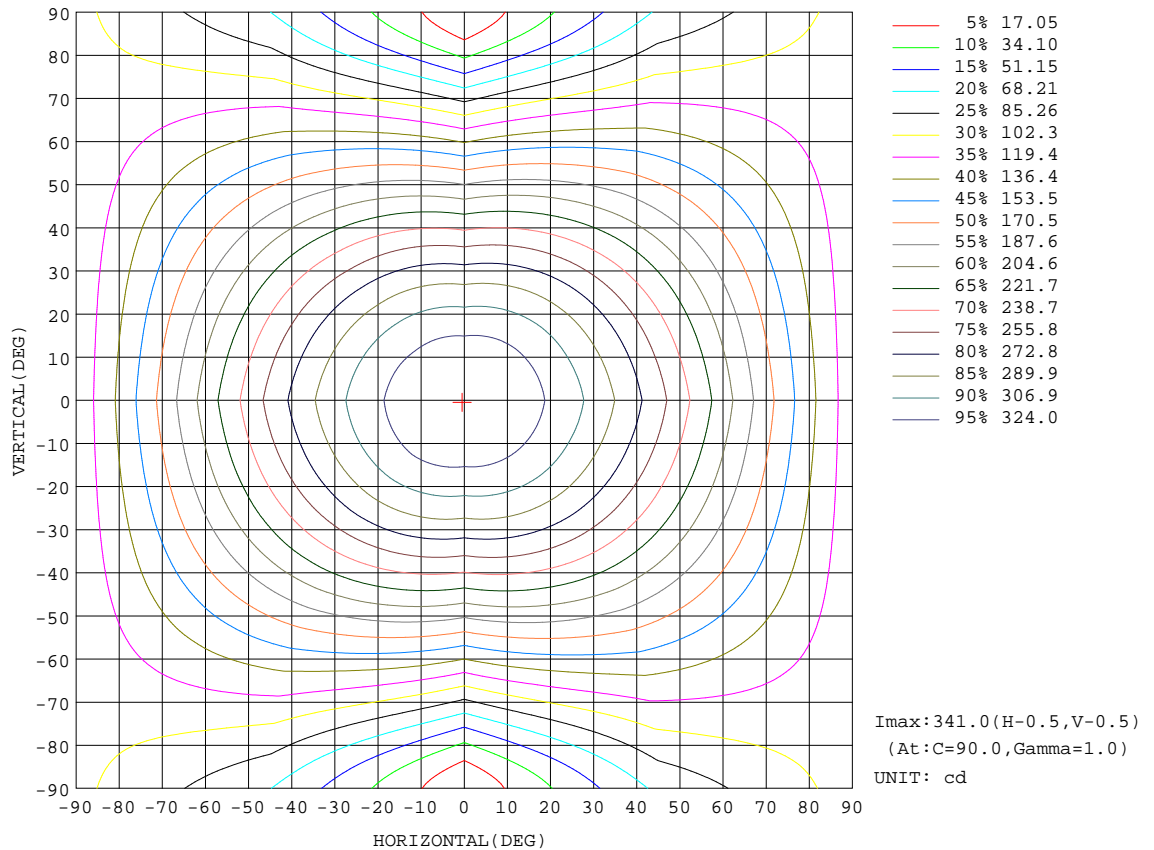
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	51	39	31	50	38	31	48	38	31	24
0.80	60	48	40	59	47	39	57	46	39	31
1.00	68	56	48	67	55	47	64	56	46	38
1.25	75	63	55	73	62	54	70	60	53	44
1.50	80	69	60	78	67	60	74	65	58	49
2.00	87	77	69	85	75	68	80	72	66	56
2.50	92	82	74	89	80	73	84	76	70	59
3.00	95	87	79	92	84	78	87	80	75	63
4.00	100	92	86	96	90	84	91	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: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	PROTECTION ANGLE:

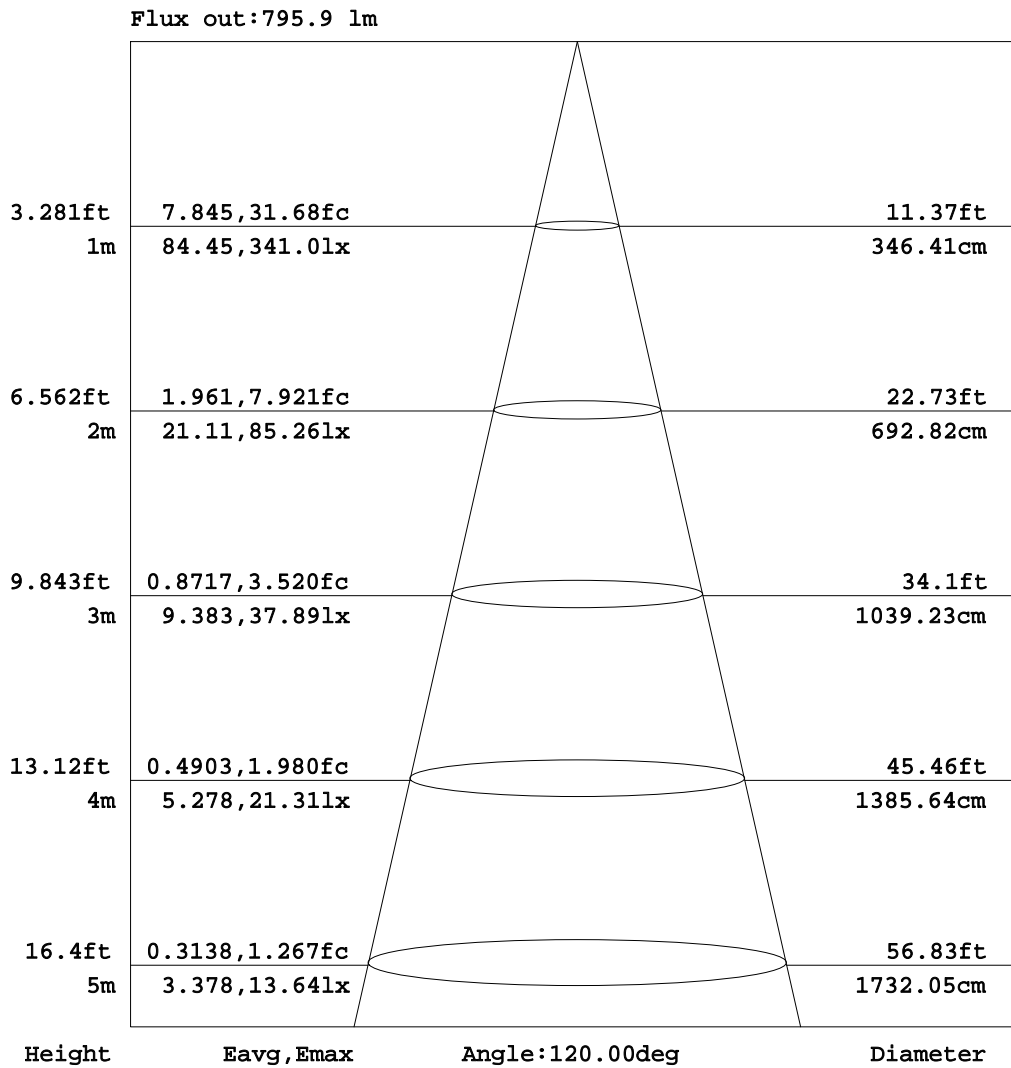


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022-05-21

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:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	PROTECTION ANGLE:



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

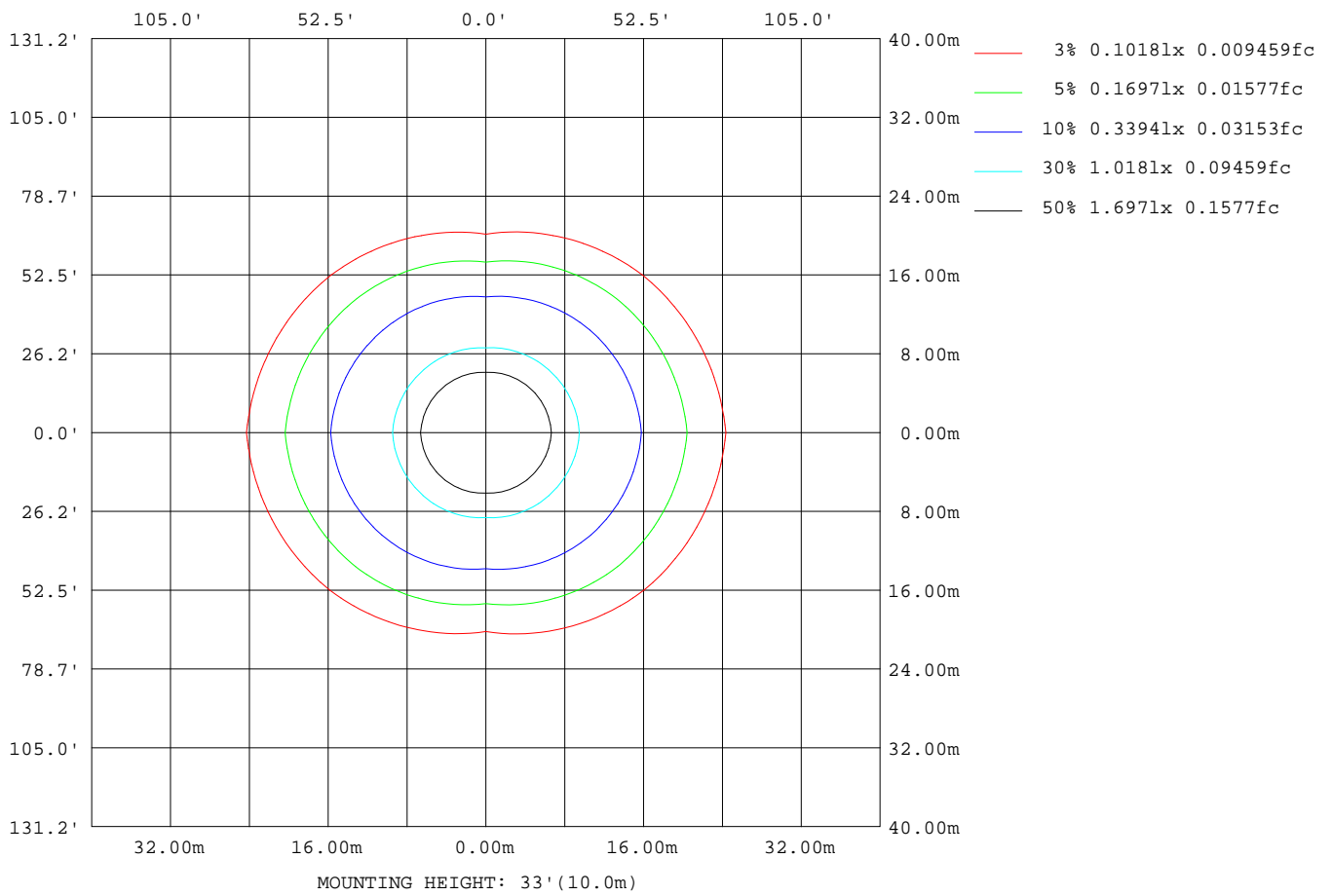
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-05-21

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**

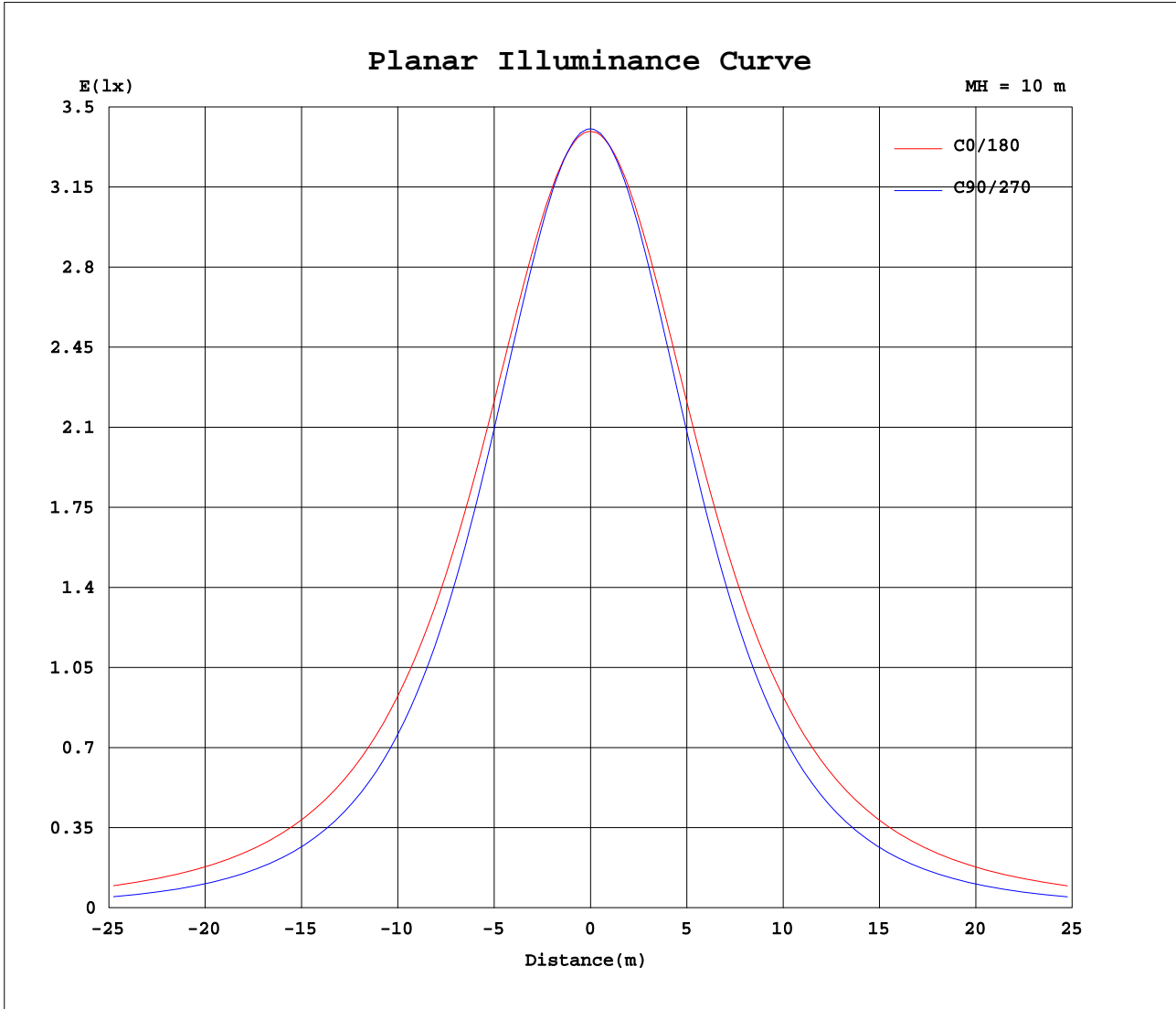
Test:U:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022-05-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:240.1V I:0.0480A P:10.40W PF:0.9010 Lamp Flux:1291.42x1 lm		
NAME: 950-080	TYPE:10W	WEIGHT:
DIM.:	SPEC.:5000K	SERIAL No.:
MFR.: Tronix Lighting	SUR.:0.0594	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG)\ γ (DEG)	0	45	90	135	180	225	270	315											
0	340	340	340	340	340	340	340	340											
5	339	339	339	339	339	338	338	338											
10	336	335	333	335	336	334	333	334											
15	330	328	325	328	330	326	323	326											
20	322	318	313	318	322	316	311	316											
25	313	306	298	305	313	304	296	304											
30	302	292	280	291	302	289	278	290											
35	290	276	260	274	289	272	258	273											
40	277	258	238	256	276	254	236	256											
45	262	239	214	237	261	235	212	237											
50	247	220	189	217	246	215	188	217											
55	230	200	163	197	229	195	162	197											
60	213	180	136	177	212	175	135	177											
65	196	159	109	156	194	155	108	157											
70	177	140	81.7	136	176	135	80.8	137											
75	160	121	55.3	117	158	116	54.7	118											
80	142	103	31.3	99.4	140	98.7	31.1	101											
85	125	86.7	12.2	83.0	123	82.6	12.3	84.6											
90	109	72.1	2.74	68.5	107	68.4	2.76	70.2											
95	94.3	59.2	2.40	55.8	91.8	55.9	2.30	57.6											
100	80.4	48.0	2.07	44.8	77.8	45.0	2.08	46.4											
105	67.5	38.2	2.16	35.4	65.1	35.7	2.20	35.5											
110	55.8	29.9	2.30	27.4	53.5	27.7	2.28	27.8											
115	45.1	22.8	2.44	20.6	43.1	21.0	2.37	21.2											
120	35.5	16.9	2.57	15.1	33.8	15.4	2.47	15.7											
125	27.1	12.1	2.75	10.6	25.6	10.9	2.59	11.1											
130	19.8	8.18	2.88	7.14	18.6	7.28	2.73	7.44											
135	13.7	5.36	3.01	4.74	12.7	4.68	2.76	4.86											
140	8.87	4.00	3.15	4.09	8.11	3.91	2.89	3.68											
145	5.53	3.86	3.31	4.02	4.99	3.79	3.00	3.49											
150	4.22	3.82	3.49	4.03	4.24	3.77	3.18	3.44											
155	4.10	3.81	3.70	4.07	4.14	3.78	3.36	3.48											
160	4.10	3.87	3.83	4.14	4.10	3.80	3.53	3.59											
165	4.16	3.98	3.99	4.19	4.11	3.86	3.67	3.71											
170	4.24	4.10	4.09	4.20	4.07	3.89	3.82	3.84											
175	4.31	4.14	4.19	4.22	4.36	4.19	4.15	4.12											
180	4.38	4.23	4.22	4.21	4.36	4.22	4.21	4.22											

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-05-21

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: