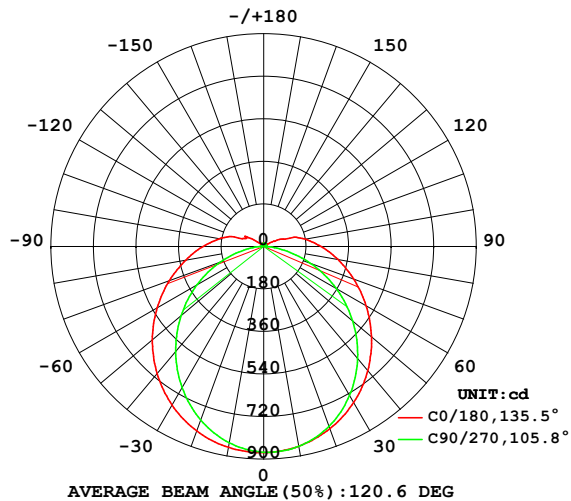


LUMINAIRE PHOTOMETRIC TEST REPORT

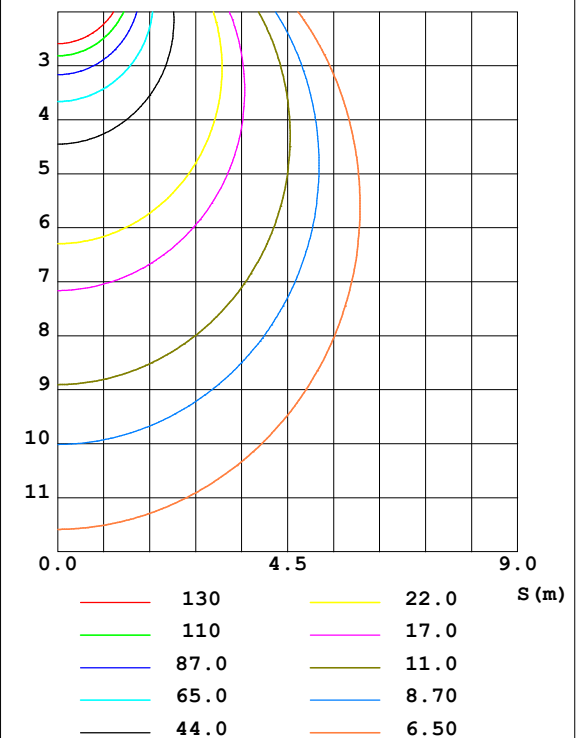
Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm		
NAME: T8-4FT-25W-5000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: NOON	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 134.97 lm/W			
MODEL	25W-5000K	I _{max} (cd)	874.8	S/MH (C0/180)	1.30
NOMINAL POWER (W)	25	LOR (%)	100.0	S/MH (C90/270)	1.24
RATED VOLTAGE (V)		TOTAL FLUX (lm)	3158.3	η UP, DN (C0-180)	4.7, 46.3
NOMINAL FLUX (lm)	3158.3	CIE CLASS	DIRECT	η UP, DN (C180-360)	4.7, 44.3
LAMPS INSIDE	1	η up (%)	9.4	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)		η down (%)	90.6	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ROCK
Test Date: 2018-10-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity: 65.0%
Test Distance: 6.400m [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	857.9	868.8	858.8	861.1	863.0	844.7	843.2	851.9	0- 10	82.47	82.47	2.61,2.61
20	820.0	834.0	809.7	820.0	830.4	788.8	781.0	802.4	10- 20	236.2	318.7	10.1,10.1
30	761.7	770.9	727.4	752.1	775.5	710.5	690.7	728.6	20- 30	358.7	677.4	21.4,21.4
40	686.2	683.8	618.8	663.2	701.8	615.3	579.9	635.0	30- 40	435.6	1113	35.2,35.2
50	595.7	579.4	492.3	558.3	615.1	508.6	456.5	529.2	40- 50	460.2	1573	49.8,49.8
60	500.0	468.6	354.3	447.3	520.7	400.5	327.4	423.2	50- 60	435.3	2008	63.6,63.6
70	405.8	360.6	211.7	340.4	425.0	299.8	196.2	321.9	60- 70	371.2	2380	75.3,75.3
80	319.3	264.5	78.80	246.5	335.1	214.1	76.14	234.0	70- 80	284.5	2664	84.4,84.4
90	243.2	185.6	11.10	171.0	256.3	147.5	10.63	163.6	80- 90	197.8	2862	90.6,90.6
100	180.6	123.1	10.69	109.8	191.1	92.69	11.07	109.9	90-100	137.6	3000	95,95
110	91.47	62.99	9.440	40.49	97.80	33.72	9.122	50.55	100-110	80.62	3080	97.5,97.5
120	32.58	15.51	8.946	14.06	81.87	10.58	9.800	13.98	110-120	35.46	3116	98.7,98.7
130	13.39	13.16	9.739	12.37	16.91	11.61	10.54	11.37	120-130	14.78	3130	99.1,99.1
140	13.26	12.58	10.58	10.95	13.34	12.04	11.27	11.50	130-140	9.272	3140	99.4,99.4
150	13.43	12.83	11.54	12.11	12.54	13.21	12.07	12.02	140-150	7.645	3147	99.7,99.7
160	13.95	13.15	12.33	12.80	13.53	13.41	12.61	12.66	150-160	5.911	3153	99.8,99.8
170	13.73	13.29	12.96	12.91	13.73	13.54	12.97	12.93	160-170	3.721	3157	100,100
180	14.13	13.69	13.28	13.21	14.08	13.67	13.19	13.29	170-180	1.278	3158	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

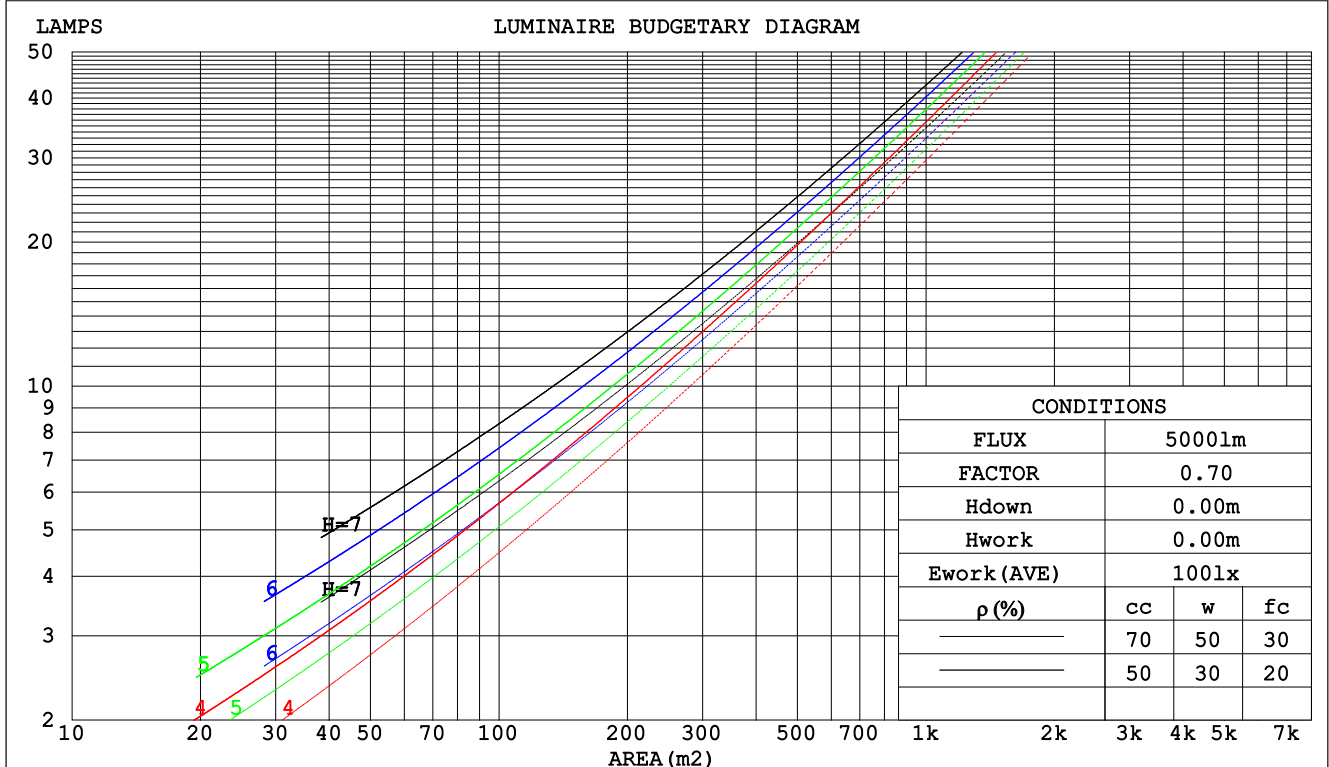
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ROCK
 Test Date:2018-10-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.268
 Humidity:65.0%
 Test Distance:6.400m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm		
NAME: T8-4FT-25W-5000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: NOON	SUR.:	PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	.99	.99	.99	.93	.93	.93	.91
1.0	.99	.94	.89	.95	.91	.87	.89	.86	.82	.84	.81	.78	.79	.76	.74	.71
2.0	.85	.77	.71	.82	.75	.69	.77	.71	.66	.72	.67	.63	.68	.64	.60	.58
3.0	.74	.65	.58	.72	.63	.57	.67	.60	.55	.63	.57	.53	.59	.55	.50	.48
4.0	.65	.56	.49	.63	.55	.48	.59	.52	.46	.56	.50	.45	.53	.47	.43	.40
5.0	.58	.49	.42	.56	.48	.41	.53	.45	.40	.50	.43	.38	.47	.42	.37	.35
6.0	.52	.43	.36	.51	.42	.36	.48	.40	.35	.45	.39	.33	.43	.37	.32	.30
7.0	.47	.38	.32	.46	.37	.31	.43	.36	.30	.41	.34	.30	.39	.33	.29	.26
8.0	.43	.34	.28	.42	.34	.28	.40	.32	.27	.38	.31	.26	.36	.30	.26	.24
9.0	.39	.31	.25	.38	.30	.25	.36	.29	.24	.35	.28	.24	.33	.27	.23	.21
10.0	.36	.28	.23	.35	.28	.23	.34	.27	.22	.32	.26	.21	.31	.25	.21	.19



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ROCK
Test Date:2018-10-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm									
NAME: T8-4FT-25W-5000K					TYPE:			WEIGHT:	
DIM.:					SPEC.:			SERIAL No.:	
MFR.: NOON					SUR.:			PROTECTION ANGLE:	

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.367	.209	.066	.357	.204	.065	.338	.194	.062	.321	.185	.059	.305	.177	.057		
2.0	.324	.177	.054	.315	.173	.053	.298	.166	.051	.282	.158	.050	.268	.151	.048		
3.0	.290	.154	.046	.282	.151	.045	.267	.145	.044	.253	.139	.042	.240	.133	.041		
4.0	.263	.137	.040	.255	.134	.040	.242	.128	.038	.229	.123	.037	.217	.118	.036		
5.0	.240	.122	.035	.233	.120	.035	.221	.115	.034	.210	.111	.033	.199	.106	.032		
6.0	.220	.110	.032	.215	.108	.031	.203	.104	.030	.193	.100	.029	.183	.096	.029		
7.0	.204	.101	.029	.198	.099	.028	.188	.095	.027	.179	.092	.027	.170	.088	.026		
8.0	.189	.093	.026	.184	.091	.026	.175	.088	.025	.167	.084	.024	.159	.081	.024		
9.0	.177	.085	.024	.172	.084	.024	.164	.081	.023	.156	.078	.022	.149	.075	.022		
10.0	.166	.079	.022	.162	.078	.022	.154	.075	.021	.147	.073	.021	.140	.070	.020		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.262	.262	.262	.224	.224	.224	.153	.153	.153	.088	.088	.088	.028	.028	.028	
1.0	.256	.228	.202	.219	.195	.174	.150	.134	.120	.086	.078	.070	.028	.025	.023	
2.0	.249	.204	.167	.213	.176	.144	.146	.122	.101	.084	.071	.059	.027	.023	.019	
3.0	.241	.187	.144	.207	.162	.125	.142	.112	.088	.082	.066	.052	.026	.021	.017	
4.0	.233	.175	.130	.200	.151	.113	.138	.105	.079	.080	.062	.047	.026	.020	.015	
5.0	.226	.164	.119	.194	.142	.104	.134	.099	.073	.077	.058	.043	.025	.019	.014	
6.0	.218	.156	.112	.188	.135	.097	.129	.095	.069	.075	.056	.041	.024	.018	.014	
7.0	.211	.150	.106	.182	.130	.093	.126	.091	.066	.073	.054	.039	.024	.018	.013	
8.0	.205	.144	.102	.176	.125	.089	.122	.088	.063	.071	.052	.038	.023	.017	.012	
9.0	.198	.139	.099	.171	.121	.086	.118	.085	.061	.069	.050	.037	.022	.016	.012	
10.0	.192	.135	.096	.166	.117	.084	.115	.082	.060	.067	.049	.036	.022	.016	.012	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ROCK
 Test Date:2018-10-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.268
 Humidity:65.0%
 Test Distance:6.400m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm											
NAME: T8-4FT-25W-5000K					TYPE:			WEIGHT:			
DIM.:					SPEC.:			SERIAL No.:			
MFR.: NOON					SUR.:			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	20.4	21.9	20.8	22.2	22.6	19.3	20.8	19.7	21.1	21.5	
3H	22.7	24.1	23.1	24.5	24.9	20.8	22.1	21.2	22.5	22.9	
4H	24.0	25.2	24.4	25.7	26.1	21.3	22.6	21.8	23.0	23.5	
6H	25.3	26.5	25.8	27.0	27.5	21.7	22.9	22.2	23.4	23.9	
8H	26.1	27.3	26.6	27.7	28.2	21.8	23.0	22.3	23.5	23.9	
12H	27.0	28.1	27.5	28.6	29.1	21.9	23.0	22.4	23.5	24.0	
4H	2H	21.1	22.4	21.5	22.8	23.2	20.2	21.5	20.7	22.0	22.4
3H	23.6	24.7	24.1	25.2	25.7	22.0	23.1	22.5	23.6	24.1	
4H	25.0	26.0	25.5	26.5	27.1	22.8	23.8	23.3	24.3	24.9	
6H	26.6	27.5	27.1	28.0	28.6	23.4	24.3	23.9	24.8	25.4	
8H	27.4	28.3	28.0	28.8	29.4	23.6	24.5	24.1	25.0	25.6	
12H	28.5	29.3	29.0	29.8	30.4	23.7	24.5	24.3	25.1	25.7	
8H	4H	25.4	26.3	26.0	26.8	27.4	23.6	24.5	24.2	25.0	25.6
6H	27.3	28.0	27.8	28.6	29.2	24.6	25.3	25.2	25.9	26.5	
8H	28.3	29.0	28.9	29.6	30.2	25.0	25.7	25.6	26.2	26.9	
12H	29.6	30.1	30.2	30.8	31.4	25.3	25.9	25.9	26.5	27.2	
12H	4H	25.4	26.2	26.0	26.8	27.4	23.8	24.6	24.4	25.2	25.8
6H	27.4	28.1	28.0	28.6	29.3	25.0	25.7	25.6	26.3	26.9	
8H	28.6	29.2	29.2	29.8	30.4	25.6	26.2	26.2	26.8	27.5	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.5					

CIE Pub.117 Corrected 3158 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.0)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ROCK
Test Date:2018-10-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm		
NAME: T8-4FT-25W-5000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: NOON	SUR.:	PROTECTION ANGLE:

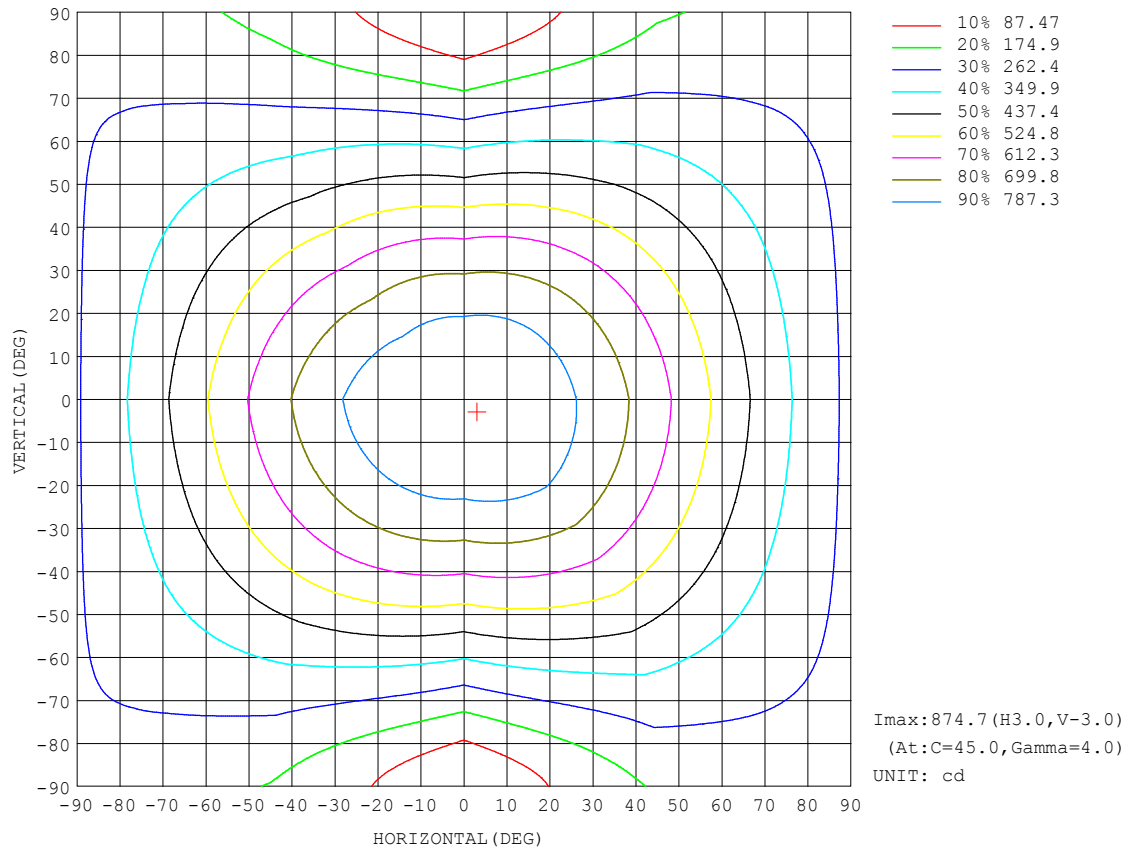
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	52	40	32	51	39	32	49	39	32	25
0.80	61	49	41	60	48	41	58	47	40	33
1.00	69	57	49	68	56	48	65	57	48	40
1.25	76	64	56	74	63	55	71	61	54	46
1.50	81	70	61	79	68	61	75	66	59	50
2.00	88	78	70	86	76	69	81	73	67	57
2.50	92	83	75	90	81	74	85	77	72	61
3.00	96	87	80	93	85	79	88	81	76	65
4.00	100	93	87	97	91	85	92	86	82	70
5.00	103	97	91	100	94	89	94	89	85	73
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:ROCK
Test Date:2018-10-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm		
NAME: T8-4FT-25W-5000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: NOON	SUR.:	PROTECTION ANGLE:

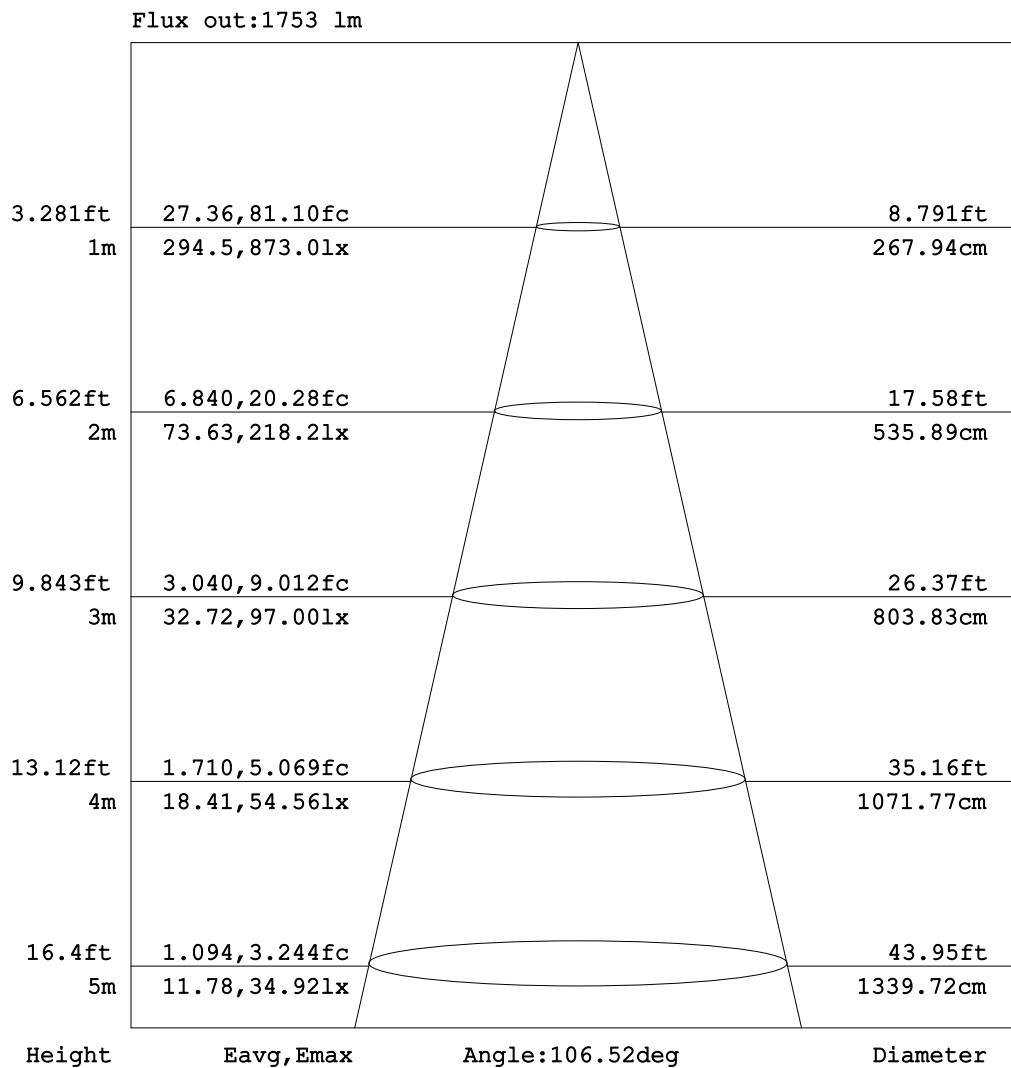


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ROCK
Test Date:2018-10-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm		
NAME: T8-4FT-25W-5000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: NOON	SUR.:	PROTECTION ANGLE:



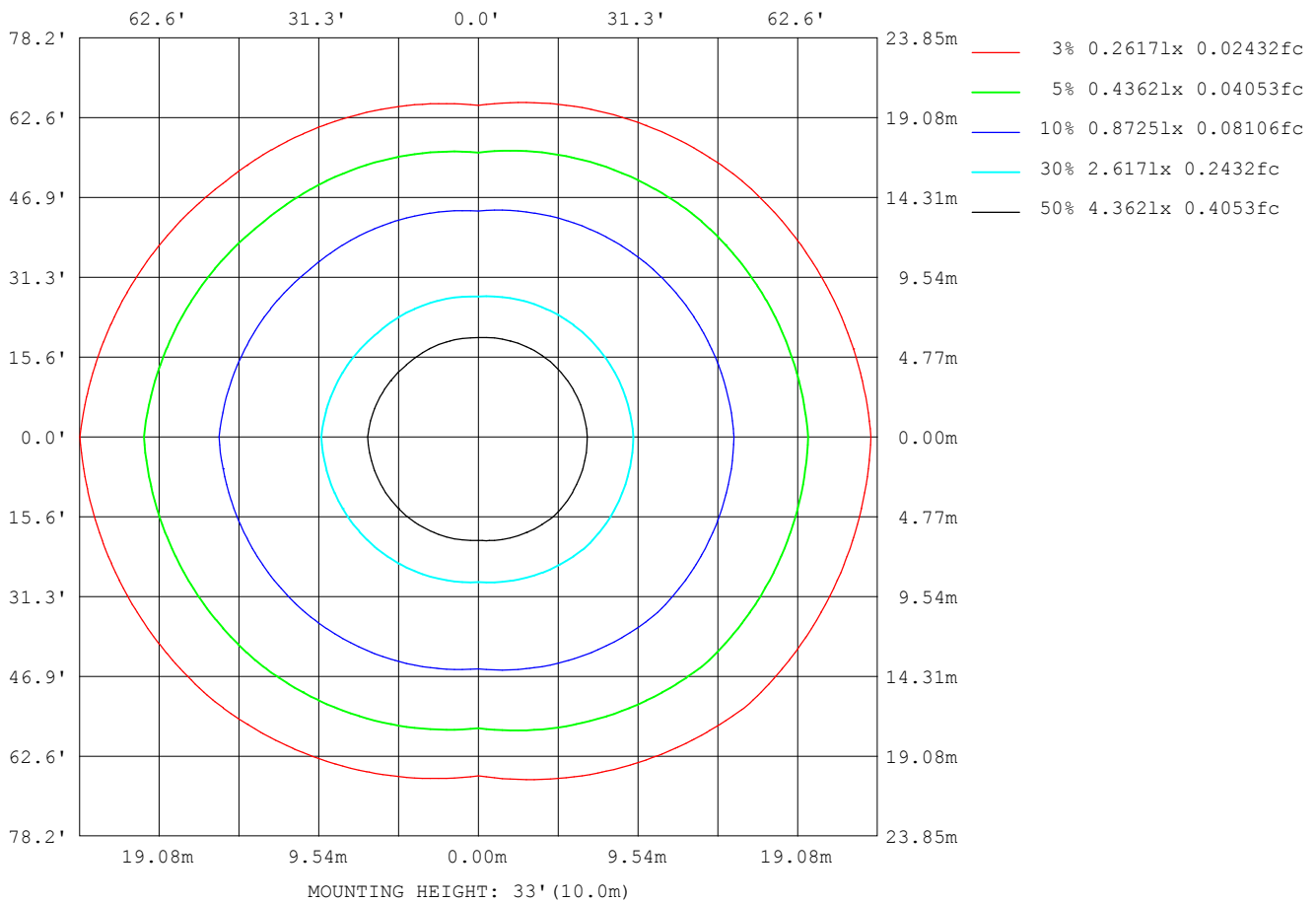
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ROCK
Test Date: 2018-10-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity: 65.0%
Test Distance: 6.400m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

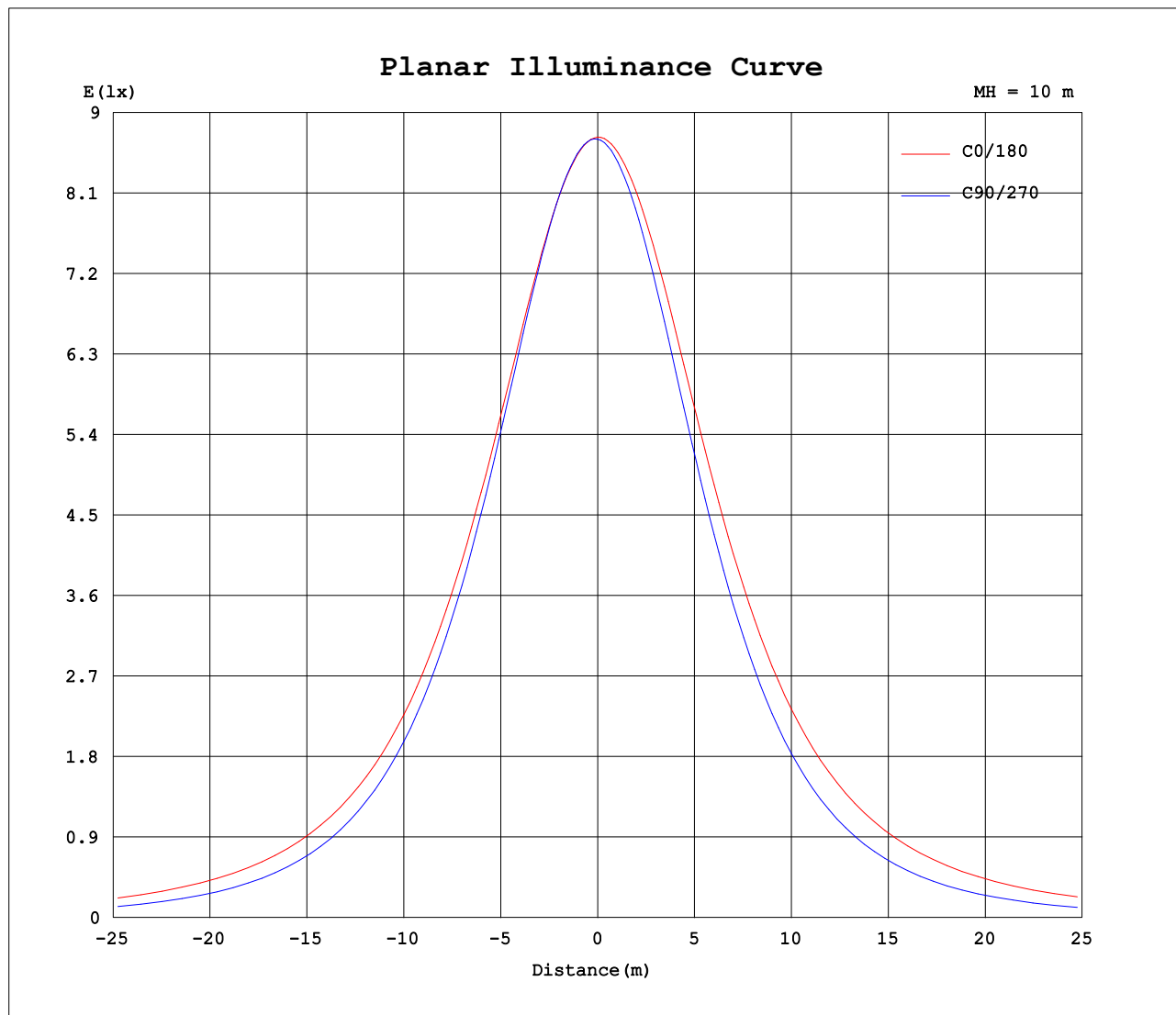
Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm		
NAME: T8-4FT-25W-5000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: NOON	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ROCK
Test Date: 2018-10-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity: 65.0%
Test Distance: 6.400m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ROCK
Test Date: 2018-10-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity: 65.0%
Test Distance: 6.400m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.8V I:0.1950A P:23.40W PF:0.9920 Lamp Flux:3158.3x1 lm		
NAME: T8-4FT-25W-5000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: NOON	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	45	90	135	180	225	270	315										
0	872	872	870	872	872	872	870	872										
5	868	875	869	870	871	862	861	866										
10	858	869	859	861	863	845	843	852										
15	842	855	839	844	850	820	816	830										
20	820	834	810	820	830	789	781	802										
25	793	806	772	789	806	752	739	768										
30	762	771	727	752	775	710	691	729										
35	726	730	676	710	740	664	637	684										
40	686	684	619	663	702	615	580	635										
45	642	633	557	612	660	563	519	583										
50	596	579	492	558	615	509	456	529										
55	548	524	424	503	568	454	392	476										
60	500	469	354	447	521	401	327	423										
65	452	414	283	393	473	349	262	371										
70	406	361	212	340	425	300	196	322										
75	361	311	142	291	379	255	134	276										
80	319	265	78.8	247	335	214	76.1	234										
85	279	223	29.7	206	294	178	30.7	197										
90	243	186	11.1	171	256	147	10.6	164										
95	210	154	11.0	141	222	121	10.8	135										
100	181	123	10.7	110	191	92.7	11.1	110										
105	148	75.5	10.2	67.0	157	53.3	9.34	67.6										
110	91.5	63.0	9.44	40.5	97.8	33.7	9.12	50.6										
115	64.1	39.0	8.90	16.1	82.9	9.87	9.44	51.4										
120	32.6	15.5	8.95	14.1	81.9	10.6	9.80	14.0										
125	13.7	13.9	9.34	13.0	43.1	11.1	10.2	10.9										
130	13.4	13.2	9.74	12.4	16.9	11.6	10.5	11.4										
135	13.3	12.7	10.2	11.5	13.4	11.9	10.9	11.7										
140	13.3	12.6	10.6	10.9	13.3	12.0	11.3	11.5										
145	13.3	12.6	11.1	11.5	12.9	12.7	11.7	11.7										
150	13.4	12.8	11.5	12.1	12.5	13.2	12.1	12.0										
155	13.6	13.1	12.0	12.6	13.1	13.4	12.4	12.3										
160	14.0	13.1	12.3	12.8	13.5	13.4	12.6	12.7										
165	13.8	13.2	12.7	12.7	13.7	13.4	12.8	12.8										
170	13.7	13.3	13.0	12.9	13.7	13.5	13.0	12.9										
175	14.0	13.5	13.2	13.1	13.9	13.6	13.2	13.1										
180	14.1	13.7	13.3	13.2	14.1	13.7	13.2	13.3										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ROCK
Test Date:2018-10-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.268
Humidity:65.0%
Test Distance:6.400m [K=1.0000]
Remarks: