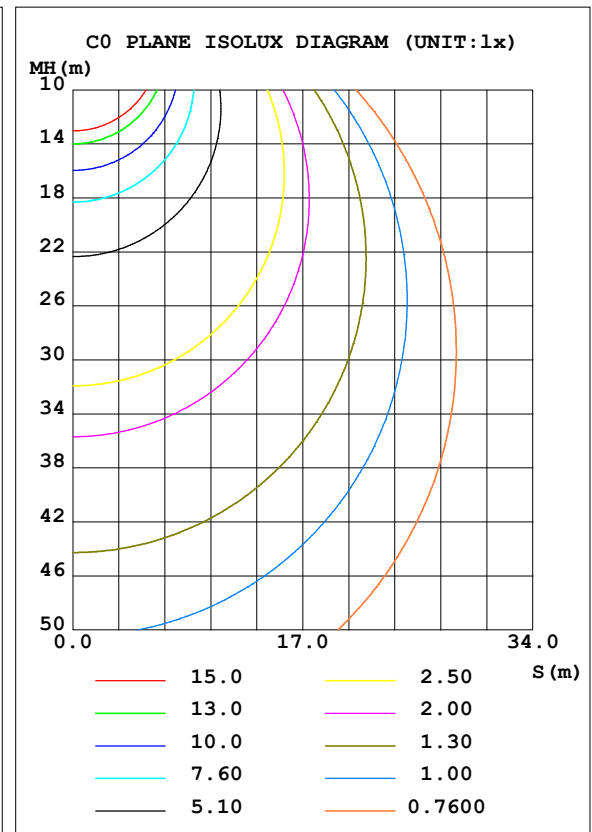
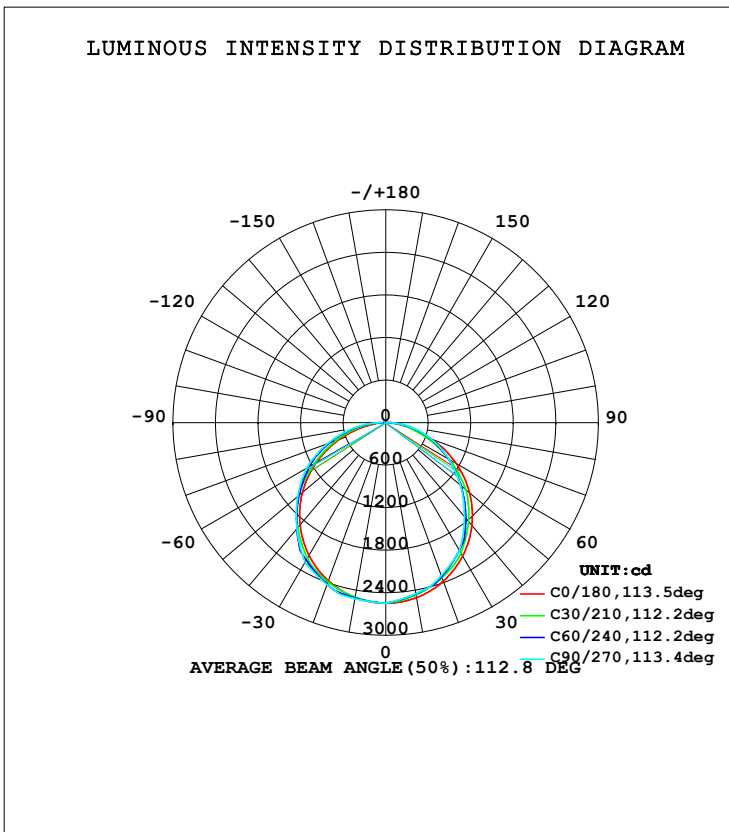


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 127.03 lm/W			
MODEL		I <sub>max</sub> (cd)	2548	S/MH (C0/180)	1.26
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.31
RATED VOLTAGE (V)		TOTAL FLUX (lm)	7382.4	η UP, DN (C0-180)	0.0, 47.2
NOMINAL FLUX (lm)	7382.43	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 52.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)		η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity: 65.0%  
 Test Distance: 9.646m [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
5	2537	2508	2499	2507	2536	2532	2534	2533	0- 5	60.52	60.52	0.82,0.82
10	2505	2458	2450	2456	2503	2505	2520	2508	5- 10	179.1	239.6	3.25,3.25
15	2452	2398	2401	2394	2448	2468	2506	2472	10- 15	292.1	531.7	7.2,7.2
20	2378	2329	2294	2324	2373	2421	2430	2427	15- 20	396.0	927.7	12.6,12.6
25	2285	2215	2187	2210	2278	2327	2354	2334	20- 25	485.9	1414	19.1,19.1
30	2171	2087	2080	2081	2164	2218	2278	2226	25- 30	560.6	1974	26.7,26.7
35	2039	1952	1904	1948	2031	2104	2114	2110	30- 35	616.7	2591	35.1,35.1
40	1891	1805	1728	1801	1882	1973	1950	1979	35- 40	648.9	3240	43.9,43.9
45	1725	1609	1551	1604	1716	1780	1786	1787	40- 45	658.6	3898	52.8,52.8
50	1544	1411	1375	1403	1535	1585	1622	1593	45- 50	647.2	4546	61.6,61.6
55	1350	1214	1199	1201	1341	1390	1459	1399	50- 55	615.7	5161	69.9,69.9
60	1143	1019	1023	997.7	1134	1198	1295	1208	55- 60	565.8	5727	77.6,77.6
65	926.0	825.2	853.8	795.1	918.3	1009	1087	1020	60- 65	498.6	6226	84.3,84.3
70	702.3	641.4	684.2	608.3	697.7	812.3	879.2	822.8	65- 70	415.9	6642	90,90
75	481.8	473.9	514.6	446.9	478.0	606.6	671.4	616.1	70- 75	323.9	6965	94.4,94.4
80	276.2	313.3	345.0	294.1	271.8	407.5	463.6	416.0	75- 80	229.1	7195	97.5,97.5
85	104.0	158.0	175.3	147.6	96.83	213.6	255.8	221.0	80- 85	137.5	7332	99.3,99.3
90	3.336	5.843	5.713	4.726	3.292	22.64	48.07	28.98	85- 90	50.32	7382	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

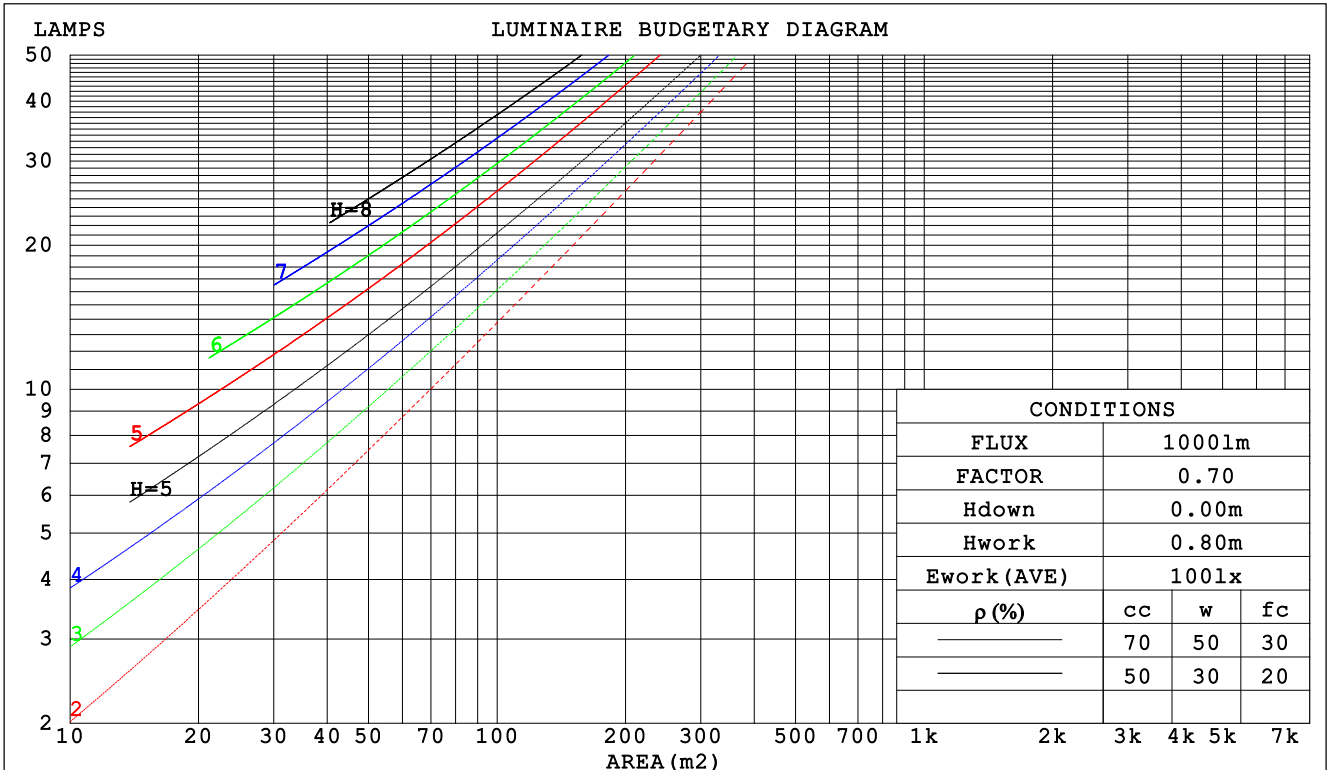
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	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															
	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.03	.99	.95	1.01	.97	.93	.97	.93	.90	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.84	.79	.74	.81	.77	.73	.78	.74	.71	.69
3.0	.79	.70	.64	.77	.69	.63	.74	.68	.62	.71	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.68	.60	.54	.66	.59	.53	.63	.57	.52	.61	.56	.51	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.46	.57	.50	.45	.55	.49	.45	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.46	.40	.51	.45	.39	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.41	.35	.48	.41	.35	.47	.40	.35	.46	.39	.35	.33
8.0	.46	.38	.32	.46	.37	.32	.44	.37	.31	.43	.36	.31	.42	.36	.31	.29
9.0	.42	.34	.29	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.25	.24



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm												
NAME:				TYPE:				WEIGHT:				
SPEC.:				DIM.:				SERIAL No.:				
MFR.:				SUR.:				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	.319	.182	.058	.312	.178	.057	.299	.171	.055	.287	.165	.053	.275	.160	.051	
2.0	.297	.163	.050	.291	.160	.049	.279	.155	.048	.269	.151	.047	.259	.146	.046	
3.0	.274	.146	.044	.268	.144	.043	.258	.140	.042	.248	.136	.042	.239	.133	.041	
4.0	.252	.131	.038	.247	.129	.038	.238	.126	.038	.229	.123	.037	.221	.120	.037	
5.0	.232	.118	.034	.228	.117	.034	.220	.115	.034	.212	.112	.033	.205	.110	.033	
6.0	.215	.108	.031	.211	.107	.031	.204	.105	.030	.197	.103	.030	.191	.101	.030	
7.0	.200	.099	.028	.197	.098	.028	.190	.096	.028	.184	.094	.027	.178	.093	.027	
8.0	.187	.091	.026	.184	.090	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.175	.085	.024	.172	.084	.024	.167	.083	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.149	.075	.021	

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																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.173	.132	.097	.148	.114	.084	.102	.079	.059	.059	.046	.034	.019	.015	.011	
3.0	.165	.114	.074	.142	.099	.064	.097	.069	.045	.056	.040	.026	.018	.013	.009	
4.0	.158	.101	.058	.135	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.015	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.074	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.118	.060	.022	.101	.052	.019	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm										
NAME:					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					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	19.5	21.0	19.8	21.2	21.4	19.1	20.6	19.4	20.8	21.0
3H	20.9	22.3	21.2	22.6	22.8	20.7	22.2	21.0	22.4	22.6
4H	21.4	22.8	21.7	23.0	23.3	21.5	22.8	21.8	23.1	23.3
6H	21.7	23.0	22.0	23.3	23.5	22.1	23.4	22.4	23.7	23.9
8H	21.8	23.0	22.1	23.3	23.6	22.3	23.6	22.7	23.9	24.2
12H	21.8	23.0	22.2	23.3	23.6	22.5	23.7	22.9	24.0	24.3
4H 2H	20.0	21.3	20.3	21.6	21.9	19.7	21.1	20.0	21.3	21.6
3H	21.6	22.8	21.9	23.0	23.4	21.5	22.7	21.9	23.0	23.3
4H	22.2	23.2	22.5	23.6	23.9	22.4	23.5	22.8	23.8	24.2
6H	22.5	23.5	22.9	23.9	24.2	23.2	24.2	23.6	24.5	24.9
8H	22.7	23.6	23.1	23.9	24.3	23.5	24.4	23.9	24.8	25.2
12H	22.7	23.6	23.2	23.9	24.3	23.8	24.6	24.2	25.0	25.4
8H 4H	22.5	23.4	22.9	23.7	24.1	22.7	23.6	23.1	24.0	24.4
6H	23.0	23.8	23.4	24.2	24.6	23.7	24.4	24.1	24.8	25.3
8H	23.2	23.9	23.7	24.3	24.7	24.1	24.8	24.6	25.2	25.6
12H	23.3	23.9	23.8	24.4	24.8	24.5	25.0	24.9	25.5	26.0
12H 4H	22.5	23.3	22.9	23.7	24.1	22.7	23.5	23.1	23.9	24.3
6H	23.1	23.8	23.6	24.2	24.7	23.7	24.4	24.2	24.8	25.3
8H	23.4	23.9	23.8	24.4	24.9	24.2	24.8	24.7	25.3	25.7
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	+ 0.4 / - 0.5					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 7382 lm Total Lamp Luminous Flux. (8log(F/F0) = 6.9)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	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	57	45	38	56	45	38	55	45	38	32
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	64	78	70	63	56
1.50	88	77	70	86	77	70	83	75	69	61
2.00	94	86	79	93	84	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	102	95	89	100	93	88	96	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	98	101	98	94	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

3898.4 lm

%lum = 52.8%

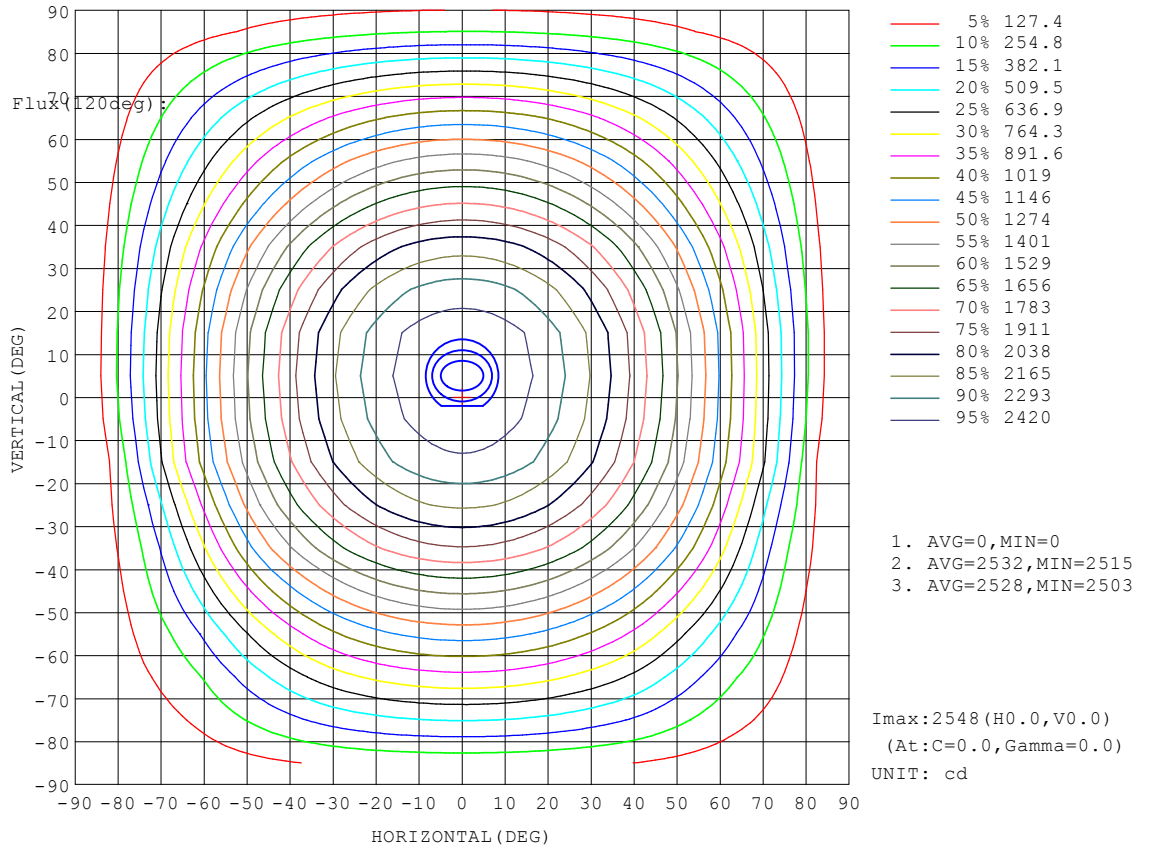
%lamp = 52.8%

Conical surface Flux(20deg):

5727.1 lm

%lum = 77.6%

%lamp = 77.6%

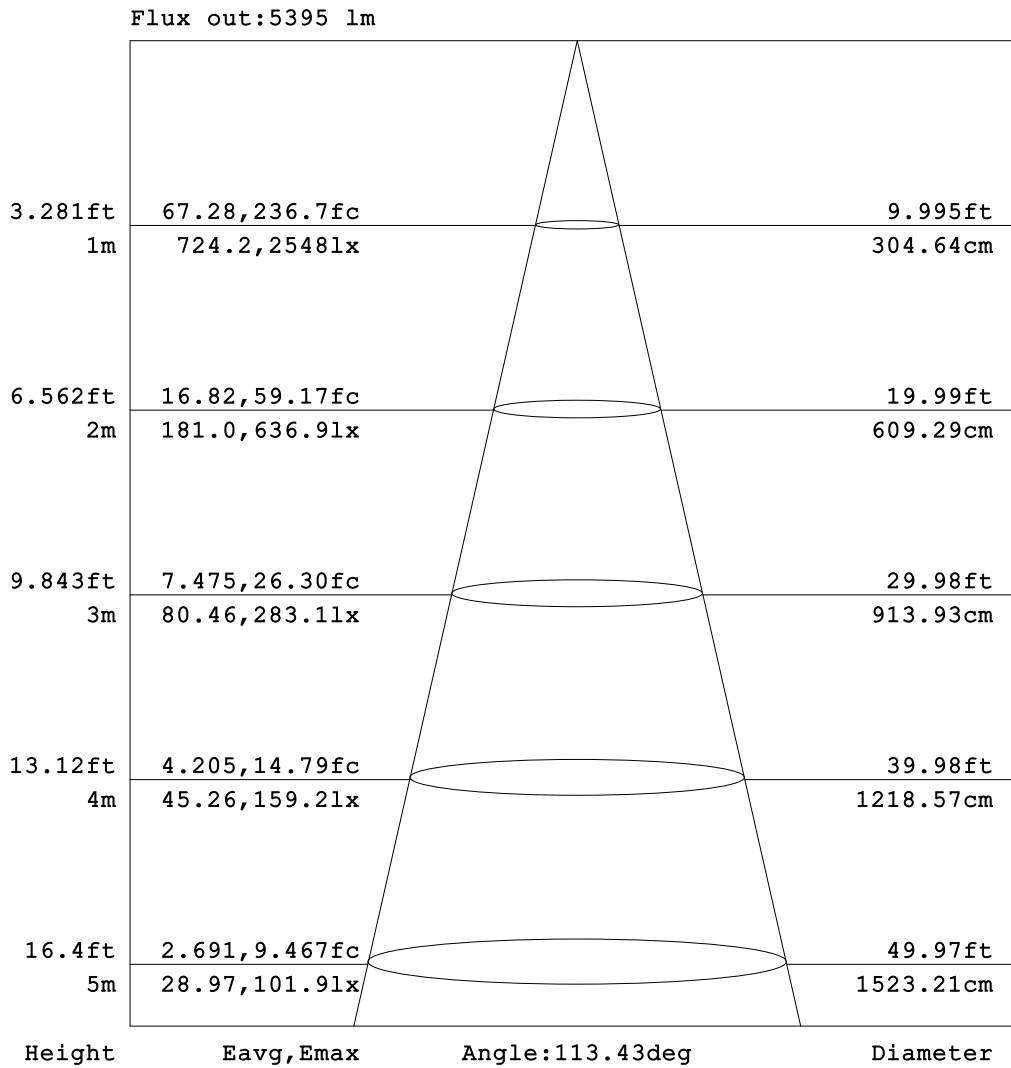


C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

AAI Figure

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



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

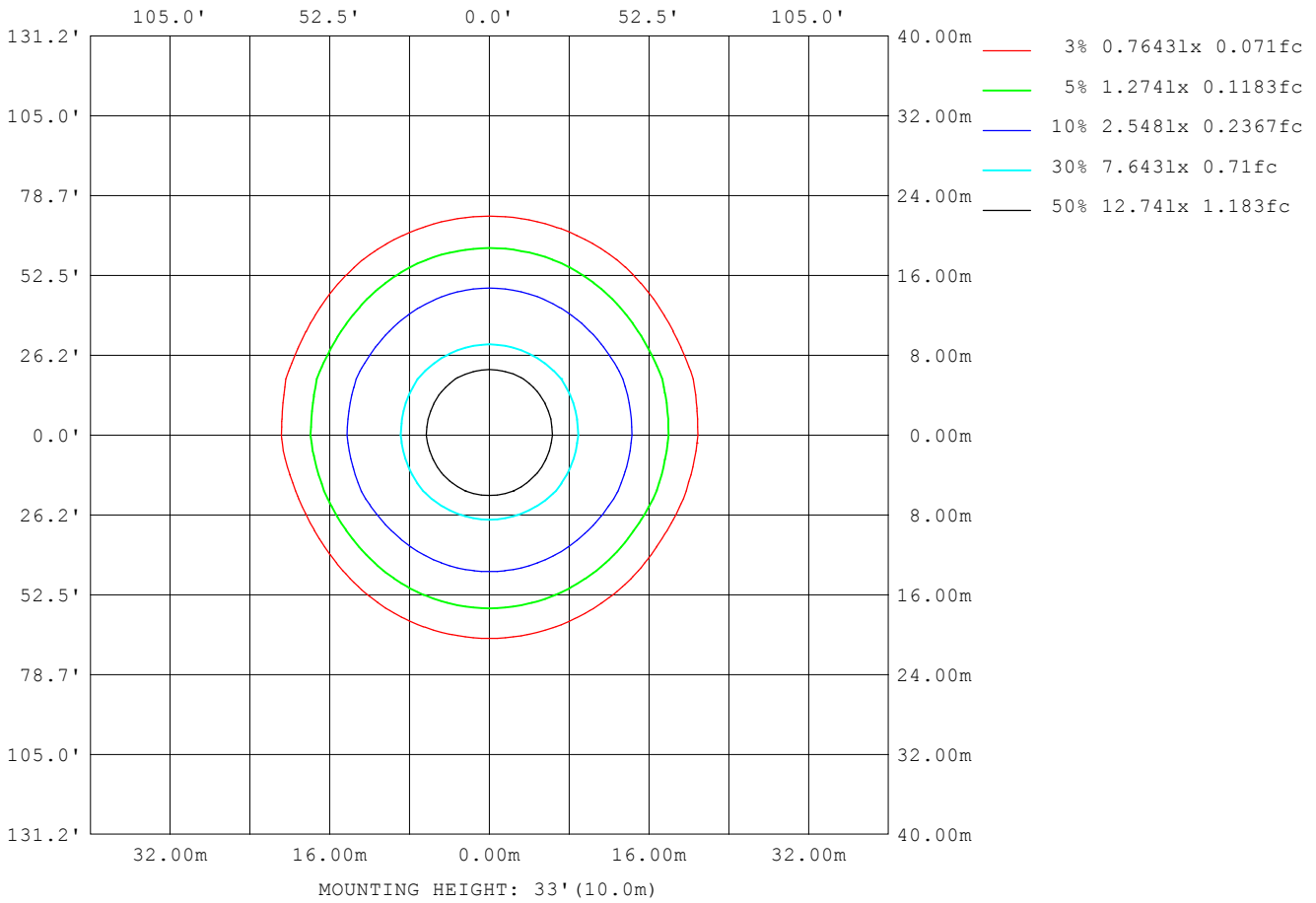
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity: 65.0%  
 Test Distance: 9.646m [K=1.0000]  
 Remarks:



**ISOLUX DIAGRAM**

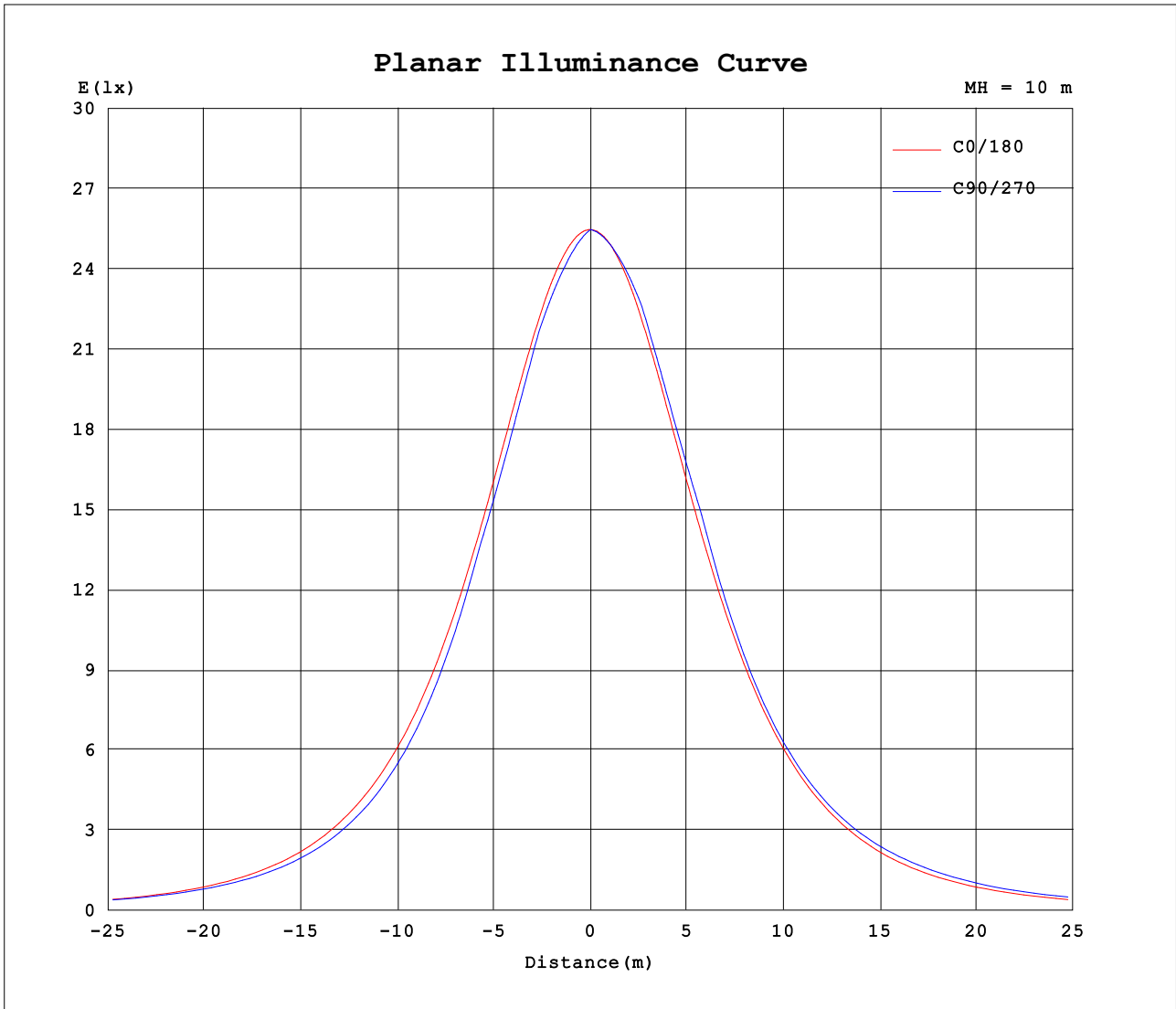
Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity: 65.0%  
 Test Distance: 9.646m [K=1.0000]  
 Remarks:







**LUMINOUS DISTRIBUTION INTENSITY DATA**

Test:U:120.1V I:0.4869A P:58.11W PF:0.9940 Lamp Flux:7382.43x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: cd

C (DEG) \ γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	2548	2548	2548	2548	2548	2548	2548	2548	2548	2548	2548	2548	2548	2548	2548				
5	2533	2533	2533	2533	2533	2533	2533	2533	2533	2533	2533	2534	2534	2535	2536				
10	2518	2517	2516	2514	2512	2510	2508	2506	2504	2503	2502	2501	2501	2502	2503				
15	2502	2499	2494	2489	2484	2478	2472	2467	2461	2457	2453	2450	2448	2448	2450				
20	2430	2429	2429	2429	2430	2431	2427	2416	2406	2396	2388	2381	2377	2375	2375				
25	2350	2347	2344	2341	2338	2335	2334	2334	2338	2321	2306	2295	2286	2282	2281				
30	2270	2264	2256	2248	2240	2232	2226	2221	2218	2220	2210	2192	2178	2170	2168				
35	2118	2121	2126	2132	2139	2124	2110	2099	2089	2084	2085	2075	2055	2042	2036				
40	1951	1952	1954	1957	1962	1969	1979	1969	1952	1939	1932	1933	1915	1896	1888				
45	1784	1783	1781	1780	1780	1782	1787	1796	1808	1785	1770	1762	1762	1736	1723				
50	1617	1613	1608	1603	1598	1595	1593	1595	1602	1615	1599	1583	1579	1562	1544				
55	1451	1444	1436	1427	1417	1408	1399	1394	1392	1397	1411	1395	1381	1376	1351				
60	1284	1276	1264	1251	1237	1222	1208	1195	1185	1180	1183	1197	1176	1170	1148				
65	1083	1078	1073	1065	1057	1040	1020	1000	982	967	959	960	969	949	935				
70	875	870	863	855	846	835	823	809	785	762	743	732	731	726	718				
75	667	662	656	648	639	629	616	601	584	564	541	520	505	504	495				
80	460	455	450	444	436	427	416	403	388	370	351	330	308	292	288				
85	253	249	245	241	235	229	221	212	202	190	177	162	146	128	112				
90	45.9	43.6	41.2	38.5	35.6	32.4	29.0	25.5	21.9	18.3	14.8	11.5	8.59	6.28	4.41				

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2019-10-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks: