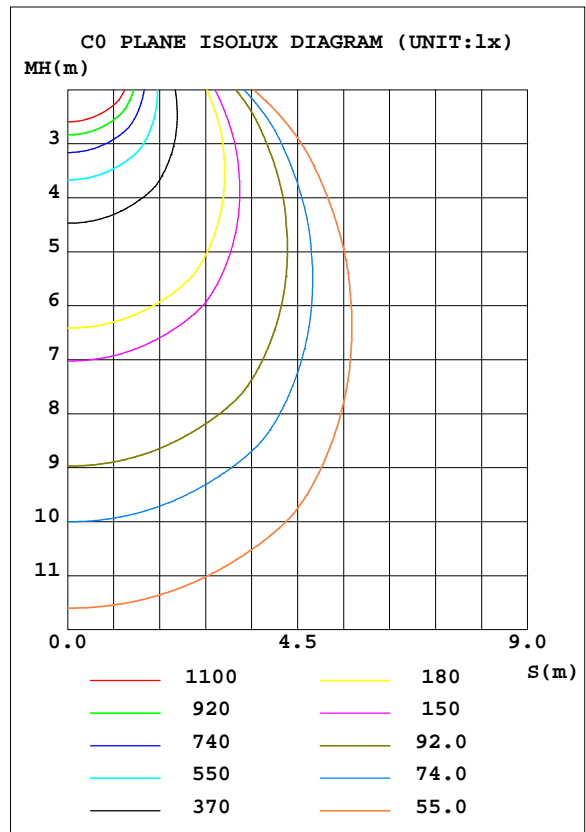
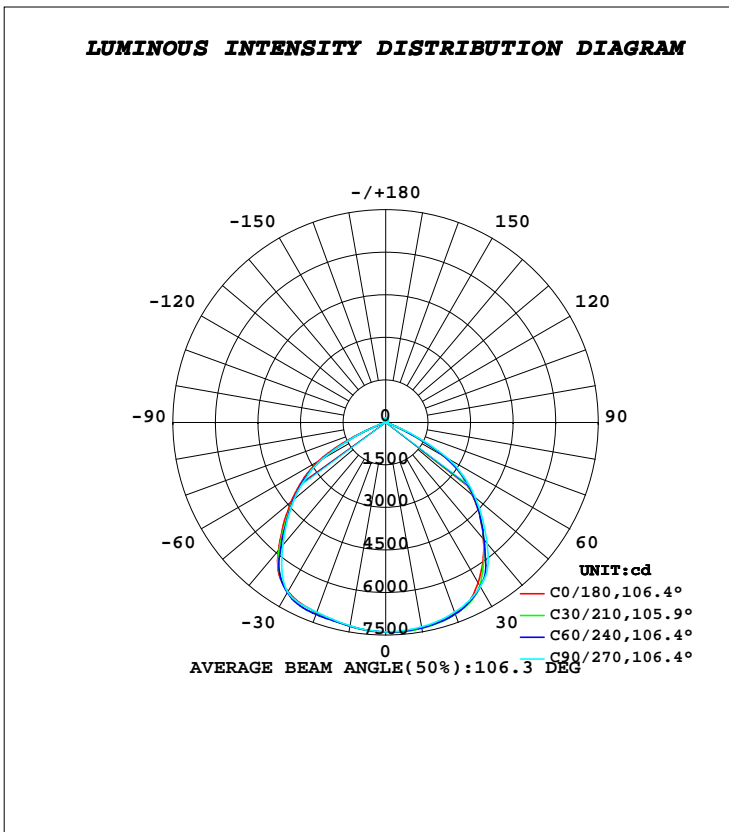


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 122.02 lm/W			
MODEL	150W-16ALG-120°	I _{max} (cd)	7400	S/MH(C0/180)	1.29
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.34
RATED VOLTAGE(V)	220.6	TOTAL FLUX(lm)	18510	η UP, DN(C0-180)	1.3, 47.7
NOMINAL FLUX(lm)	18510.3	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.4, 49.6
LAMPS INSIDE	1	η up(%)	2.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.6	η down(%)	97.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-06-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7188]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	7349	7361	7318	7258	7292	7287	7278	7294	0- 10	700.9	700.9	3.79,3.79
20	7158	7190	7117	7020	7133	7198	7121	7079	10- 20	2043	2744	14.8,14.8
30	6521	6659	6678	6692	6889	6925	6908	6722	20- 30	3227	5971	32.3,32.3
40	5366	5389	5567	5607	5889	5800	5641	5596	30- 40	3911	9882	53.4,53.4
50	4003	4043	4124	4191	4366	4253	4213	4204	40- 50	3769	13651	73.7,73.7
60	2313	2354	2520	2554	2743	2598	2571	2646	50- 60	3046	16697	90.2,90.2
70	45.77	93.67	183.5	179.9	307.5	193.3	189.0	225.7	60- 70	1238	17935	96.9,96.9
80	27.39	24.09	22.94	23.91	37.21	36.93	38.45	39.76	70- 80	47.68	17983	97.1,97.1
90	30.00	28.63	27.11	29.49	37.32	37.19	38.86	39.49	80- 90	35.76	18018	97.3,97.3
100	49.56	41.61	39.73	42.48	48.82	47.89	52.62	61.33	90-100	44.73	18063	97.6,97.6
110	57.10	56.46	55.92	55.48	62.70	62.98	63.71	64.02	100-110	56.06	18119	97.9,97.9
120	72.65	72.01	71.43	70.92	76.91	77.15	77.93	78.31	110-120	66.53	18186	98.2,98.2
130	87.25	86.68	86.26	85.56	90.90	91.11	91.84	91.88	120-130	73.46	18259	98.6,98.6
140	100.6	99.27	98.27	98.44	101.9	102.5	104.1	104.0	130-140	73.52	18333	99,99
150	116.1	114.8	114.1	114.8	114.7	115.1	116.4	116.8	140-150	67.63	18400	99.4,99.4
160	132.5	132.1	132.2	132.1	129.1	129.6	130.4	130.5	150-160	56.78	18457	99.7,99.7
170	145.9	146.1	146.4	145.6	143.3	143.9	144.2	144.1	160-170	39.07	18496	99.9,99.9
180	149.3	150.0	150.2	149.3	149.4	150.0	150.1	149.3	170-180	14.06	18510	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

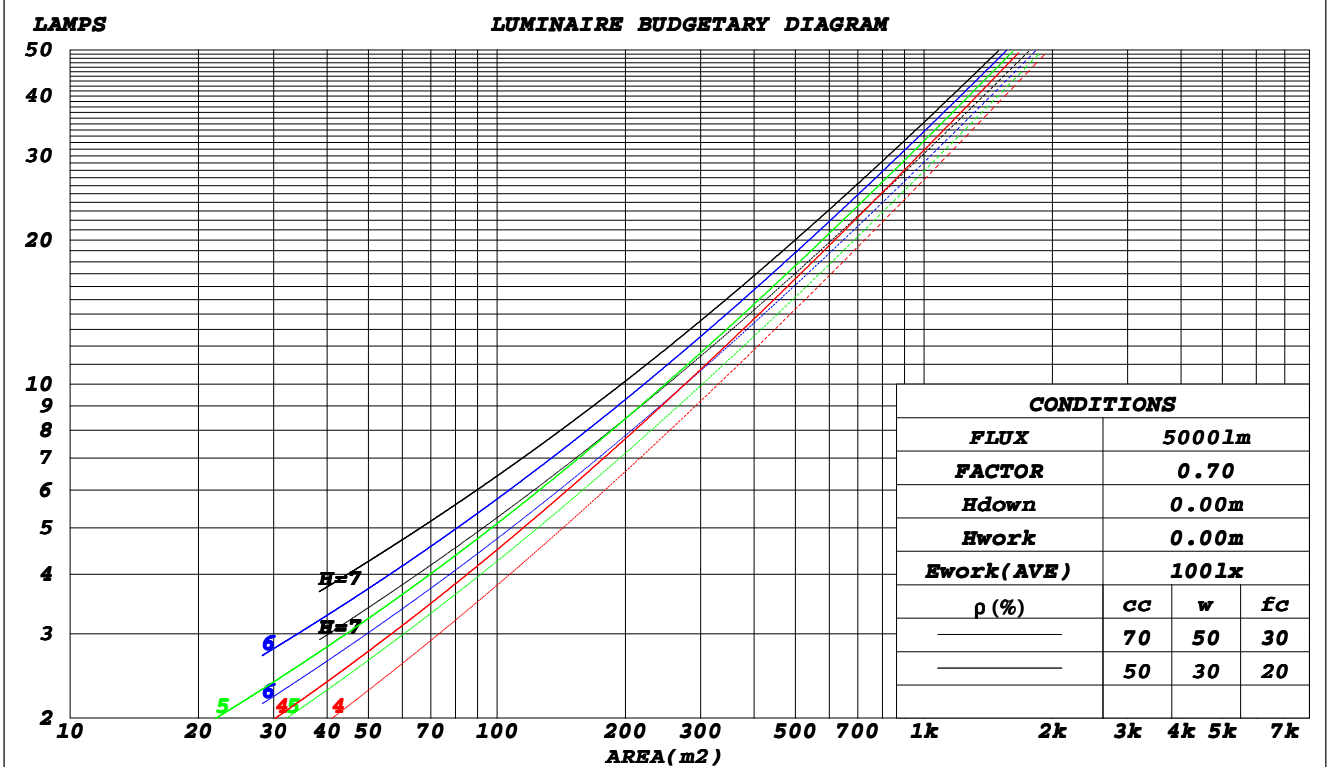
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-06-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7188]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw																
ρfc																
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	1.04	1.04	1.04	.00	.00	.00	.97
1.0	1.07	1.03	1.00	1.04	1.01	.98	.00	.97	.95	.95	.93	.91	.91	.90	.88	.86
2.0	.95	.89	.85	.93	.88	.83	.89	.85	.81	.86	.82	.79	.82	.79	.77	.75
3.0	.85	.78	.72	.83	.77	.71	.80	.74	.70	.77	.72	.68	.74	.70	.67	.65
4.0	.76	.68	.62	.74	.67	.62	.72	.65	.61	.69	.64	.59	.67	.62	.58	.56
5.0	.68	.60	.54	.67	.59	.54	.65	.58	.53	.62	.57	.52	.60	.55	.51	.49
6.0	.62	.53	.48	.61	.53	.47	.59	.52	.47	.57	.51	.46	.55	.50	.45	.44
7.0	.56	.48	.42	.55	.47	.42	.53	.46	.41	.52	.46	.41	.50	.45	.41	.39
8.0	.51	.43	.38	.50	.43	.38	.49	.42	.37	.47	.41	.37	.46	.41	.36	.35
9.0	.47	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.33	.43	.37	.33	.31
10.0	.43	.36	.31	.43	.36	.31	.42	.35	.30	.41	.34	.30	.40	.34	.30	.28



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2017-06-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7188]
 Remarks:

WEC AND CCEC

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.245	.139	.044	.237	.135	.043	.223	.128	.041	.209	.121	.039	.197	.114	.037	
2.0	.241	.132	.041	.234	.129	.040	.222	.123	.038	.210	.118	.037	.199	.113	.036	
3.0	.231	.123	.037	.225	.121	.036	.214	.116	.035	.204	.112	.034	.194	.107	.033	
4.0	.219	.114	.033	.214	.112	.033	.204	.108	.032	.195	.104	.032	.186	.101	.031	
5.0	.207	.105	.031	.202	.104	.030	.193	.101	.030	.185	.098	.029	.177	.095	.028	
6.0	.195	.098	.028	.191	.096	.028	.183	.094	.027	.175	.091	.027	.168	.089	.026	
7.0	.184	.091	.026	.180	.090	.026	.173	.087	.025	.166	.085	.025	.160	.083	.024	
8.0	.173	.085	.024	.170	.084	.024	.163	.082	.023	.157	.080	.023	.151	.078	.023	
9.0	.164	.079	.022	.161	.078	.022	.155	.076	.022	.149	.075	.021	.144	.073	.021	
10.0	.155	.074	.021	.152	.073	.020	.147	.072	.020	.142	.070	.020	.137	.069	.020	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0																
1.0	.211	.211	.211	.180	.180	.180	.123	.123	.123	.071	.071	.071	.023	.023	.023	
2.0	.196	.177	.160	.168	.152	.138	.115	.105	.095	.066	.061	.055	.021	.019	.018	
3.0	.186	.153	.125	.159	.131	.108	.109	.091	.075	.063	.053	.044	.020	.017	.014	
4.0	.178	.135	.100	.152	.116	.087	.105	.081	.061	.060	.047	.036	.019	.015	.012	
5.0	.170	.121	.084	.146	.105	.073	.100	.073	.051	.058	.043	.030	.019	.014	.010	
6.0	.163	.110	.072	.140	.096	.062	.097	.067	.044	.056	.039	.026	.018	.013	.009	
7.0	.157	.102	.063	.135	.088	.055	.093	.062	.039	.054	.036	.023	.017	.012	.008	
8.0	.151	.095	.056	.130	.082	.049	.090	.058	.035	.052	.034	.021	.017	.011	.007	
9.0	.145	.089	.051	.125	.078	.045	.086	.054	.032	.050	.032	.019	.016	.011	.006	
10.0	.139	.084	.047	.120	.073	.041	.083	.052	.029	.048	.030	.018	.016	.010	.006	
10.0	.134	.080	.044	.116	.070	.039	.080	.049	.028	.047	.029	.016	.015	.010	.005	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-06-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7188]
Remarks:

Uncorrected UGR Table

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	

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	22.8	24.2	23.1	24.4	24.6	23.0	24.4	23.3	24.6	24.8
3H	22.7	24.0	23.1	24.2	24.5	23.0	24.2	23.3	24.5	24.8
4H	22.6	23.8	23.0	24.1	24.4	22.9	24.1	23.2	24.3	24.6
6H	22.5	23.6	22.9	23.9	24.2	22.8	23.9	23.2	24.2	24.5
8H	22.5	23.5	22.8	23.8	24.2	22.7	23.8	23.1	24.1	24.4
12H	22.4	23.4	22.8	23.7	24.1	22.7	23.7	23.1	24.0	24.4
4H 2H	22.9	24.1	23.3	24.4	24.7	23.1	24.3	23.5	24.6	24.9
3H	22.9	23.9	23.2	24.2	24.5	23.1	24.1	23.5	24.4	24.8
4H	22.8	23.7	23.2	24.0	24.4	23.0	23.9	23.4	24.3	24.6
6H	22.7	23.4	23.1	23.8	24.3	22.9	23.7	23.3	24.1	24.5
8H	22.6	23.3	23.1	23.7	24.2	22.9	23.6	23.3	24.0	24.4
12H	22.6	23.2	23.0	23.7	24.1	22.8	23.5	23.3	23.9	24.3
8H 4H	22.6	23.3	23.1	23.7	24.2	22.9	23.6	23.3	24.0	24.4
6H	22.5	23.1	23.0	23.6	24.0	22.8	23.3	23.2	23.8	24.3
8H	22.5	23.0	23.0	23.5	24.0	22.7	23.2	23.2	23.7	24.2
12H	22.4	22.9	23.0	23.4	23.9	22.7	23.1	23.2	23.6	24.1
12H 4H	22.6	23.2	23.0	23.7	24.1	22.8	23.5	23.3	23.9	24.3
6H	22.5	23.0	23.0	23.5	24.0	22.7	23.2	23.2	23.7	24.2
8H	22.4	22.9	23.0	23.4	23.9	22.7	23.1	23.2	23.6	24.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.7					+ 0.6 / - 0.8				
1.5H	+ 0.7 / - 1.1					+ 0.7 / - 1.1				
2.0H	+ 1.1 / - 2.9					+ 1.1 / - 2.7				

CIE Pub.117 Corrected 18510 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.1)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-06-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7188]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	

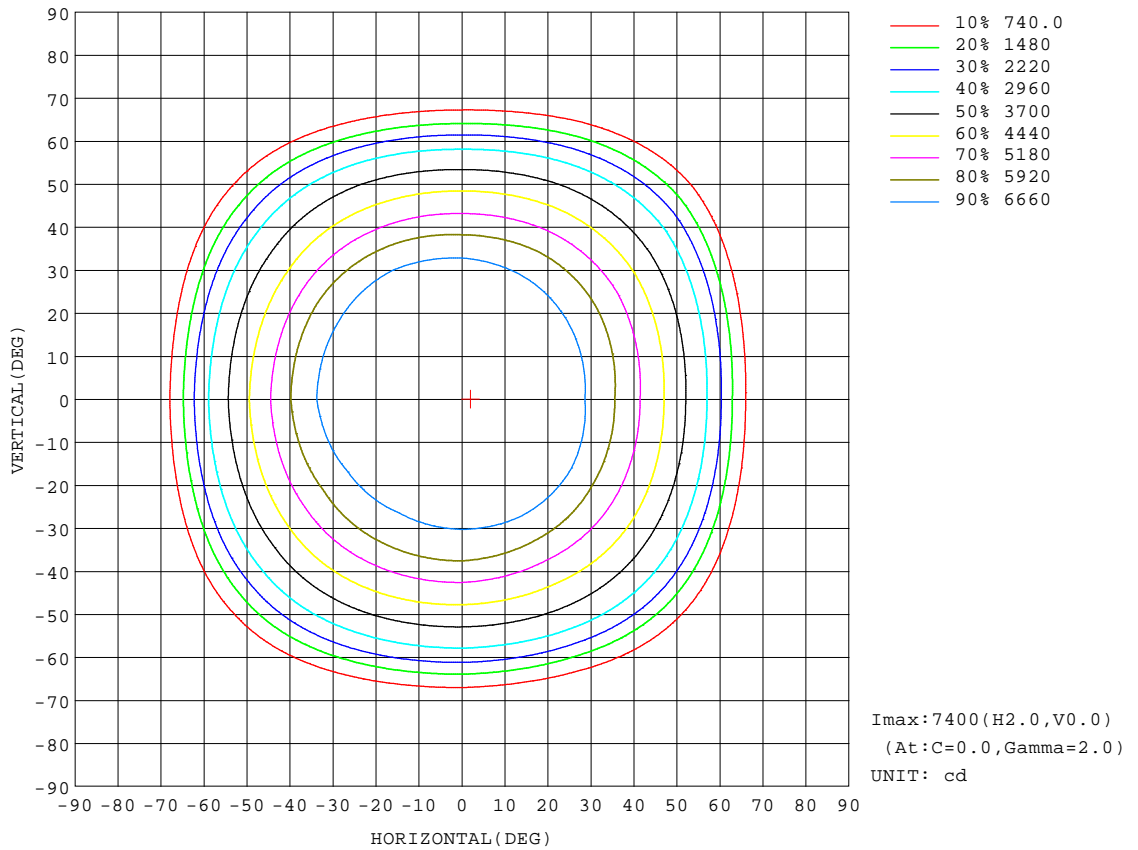
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	62	51	44	61	50	44	59	50	44	38
0.80	72	62	55	71	61	55	69	61	55	48
1.00	81	72	65	80	71	65	78	72	64	58
1.25	88	79	73	87	79	73	84	77	72	65
1.50	93	85	79	91	84	78	88	82	77	70
2.00	99	92	87	97	91	86	94	89	84	77
2.50	102	96	91	100	95	90	96	92	88	80
3.00	105	100	95	103	98	94	99	95	91	83
4.00	108	104	100	106	102	98	102	98	95	86
5.00	110	106	103	108	104	101	103	100	98	88
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:2017-06-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7188]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	



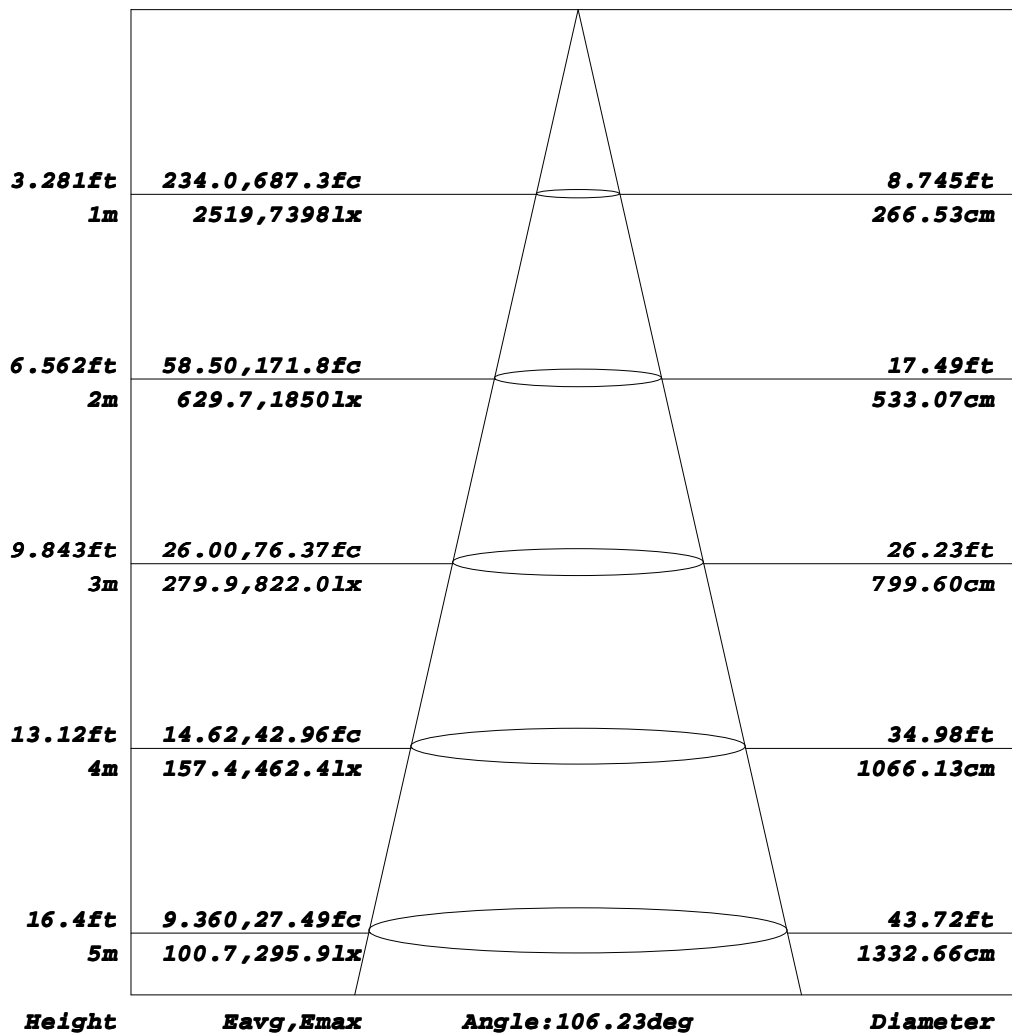
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-06-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7188]
Remarks:

AAI Figure

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	

Flux out:14990 lm



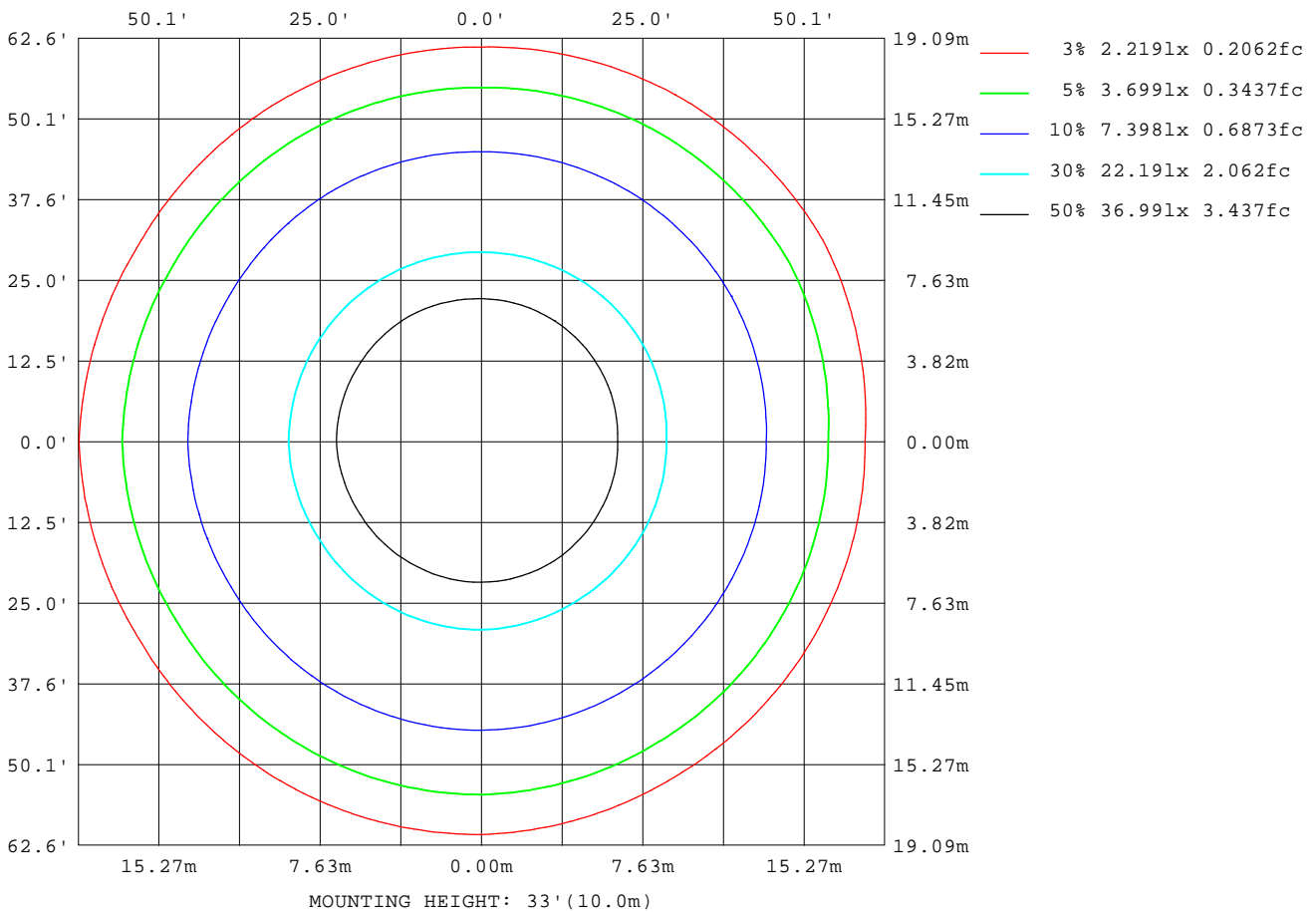
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2017-06-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7188]
 Remarks:

ISOLUX DIAGRAM

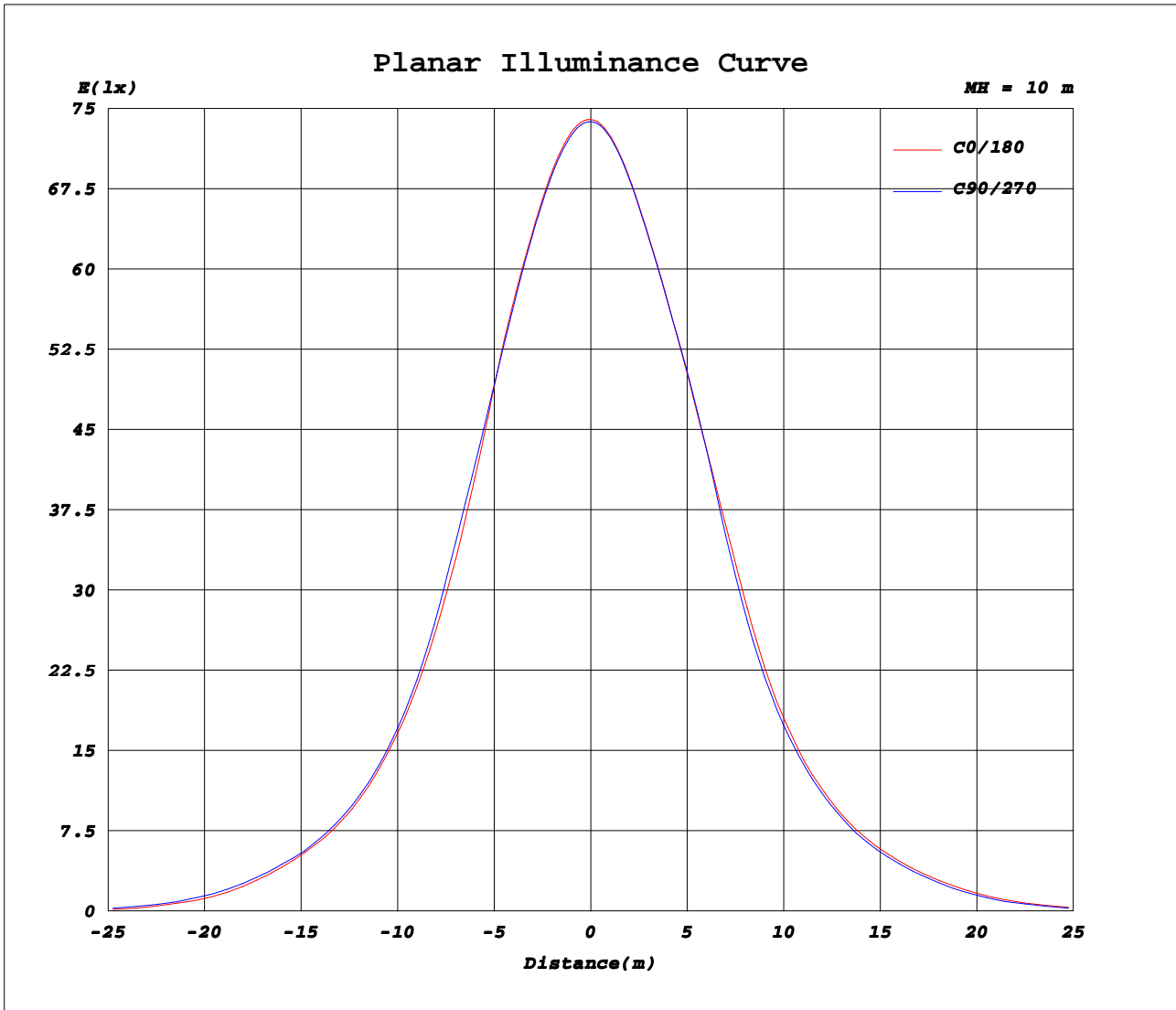
Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-06-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7188]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017-06-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7188]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.5V I:0.6960A P:151.7W PF:0.9870 Lamp Flux:18510.3x1 lm		
NAME: 150W-16ALG-120°	TYPE:LED	
MFR.:	SUR.:530*530mm	

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	7398	7392	7386	7379	7374	7370	7398	7392	7386	7379	7374	7370							
5	7393	7394	7384	7367	7346	7332	7365	7354	7353	7350	7357	7363							
10	7349	7368	7353	7318	7272	7243	7292	7286	7289	7278	7286	7302							
15	7266	7306	7292	7235	7160	7124	7204	7221	7230	7191	7162	7201							
20	7158	7197	7183	7117	7028	7013	7133	7198	7198	7121	7069	7090							
25	6972	7007	6985	6945	6876	6910	7053	7136	7141	7072	7030	6990							
30	6521	6641	6676	6678	6658	6725	6889	6915	6934	6908	6790	6654							
35	5982	6017	6161	6271	6274	6314	6559	6523	6521	6380	6308	6172							
40	5366	5381	5397	5567	5585	5629	5889	5853	5748	5641	5631	5561							
45	4713	4735	4721	4837	4879	4946	5112	5008	4958	4914	4932	4883							
50	4003	4042	4044	4124	4171	4212	4366	4251	4255	4213	4241	4167							
55	3278	3306	3338	3394	3417	3419	3606	3515	3529	3440	3471	3434							
60	2313	2345	2362	2520	2540	2568	2743	2607	2590	2571	2641	2651							
65	981	1006	1043	1182	1222	1226	1426	1268	1281	1223	1320	1296							
70	45.8	101	86.1	184	185	175	308	198	189	189	235	216							
75	25.6	24.7	23.6	23.5	24.1	24.9	39.4	38.9	38.9	39.2	39.5	39.7							
80	27.4	25.0	23.2	22.9	23.6	24.2	37.2	36.8	37.0	38.4	39.6	39.9							
85	30.7	28.0	25.0	24.4	25.4	26.0	37.1	36.4	37.4	40.8	43.9	45.0							
90	30.0	29.2	28.0	27.1	29.2	29.8	37.3	37.0	37.4	38.9	39.5	39.5							
95	43.2	38.1	33.3	33.1	35.2	35.8	43.0	41.5	42.9	47.8	50.2	51.1							
100	49.6	43.1	40.2	39.7	41.8	43.2	48.8	47.7	48.1	52.6	60.4	62.2							
105	49.5	48.7	48.3	47.8	47.8	47.5	55.3	55.4	56.0	56.6	57.1	57.1							
110	57.1	56.9	56.0	55.9	55.4	55.6	62.7	62.6	63.3	63.7	64.2	63.9							
115	64.8	64.6	63.7	63.6	63.0	63.2	69.6	69.5	70.4	70.6	71.2	70.8							
120	72.7	72.5	71.5	71.4	70.8	71.0	76.9	76.6	77.7	77.9	78.6	78.0							
125	80.3	80.3	79.2	79.3	78.5	78.7	84.3	84.0	85.0	85.2	85.9	85.2							
130	87.2	87.3	86.1	86.3	85.4	85.8	90.9	90.5	91.7	91.8	92.4	91.4							
135	93.9	93.4	92.2	92.3	91.5	92.1	96.5	96.9	97.4	98.6	98.3	97.9							
140	101	99.6	98.9	98.3	98.4	98.5	102	102	103	104	104	104							
145	108	107	106	106	106	106	108	108	109	110	110	110							
150	116	115	114	114	115	115	115	115	115	116	117	117							
155	124	124	123	123	124	124	122	122	122	123	123	123							
160	133	132	132	132	132	132	129	130	130	130	130	131							
165	140	140	140	141	140	139	137	137	138	138	138	138							
170	146	146	146	146	146	145	143	144	144	144	144	144							
175	149	149	150	150	149	148	147	147	148	148	147	147							
180	149	150	150	150	149	149	149	150	150	150	149	149							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-06-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7188]
Remarks: