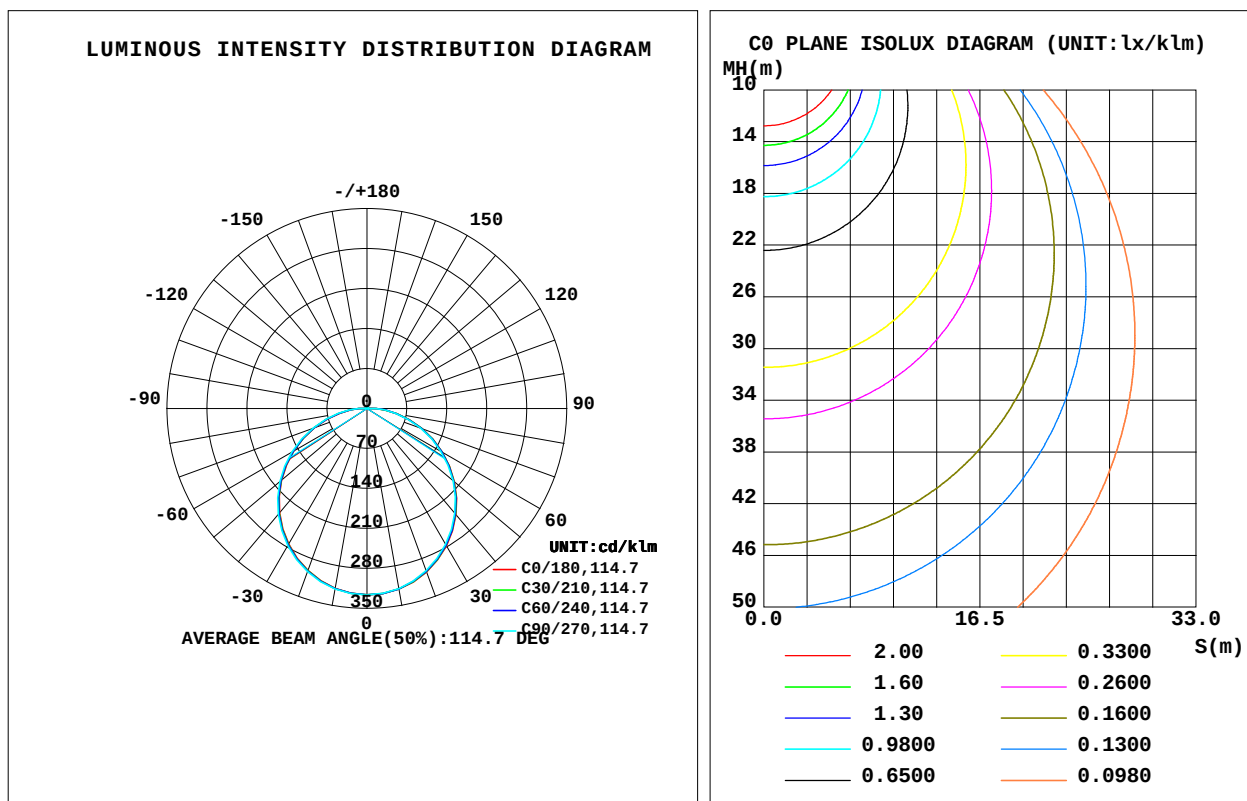


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm		
NAME: ASD-LDS-9.5D2040-WH	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 77.44 lm/W			
MODEL	ASD-LDS-9.5D2040-WH	I _{max} (cd/klm)	326.4	S/MH(C0/180)	1.25
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	120	TOTAL FLUX(lm/klm)	1000.00	h UP, DN(C0-180)	1.0,48.9
NOMINAL FLUX(lm)	1520.99	CIE CLASS	DIRECT	h UP, DN(C180-360)	1.0,49.0
LAMPS INSIDE	1	h up(%)	2.1	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	h down(%)	97.9	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: L
 Test Date: 2020-08-17

g Range: 0 - 180DEG
 g Interval: 5.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 8.110m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

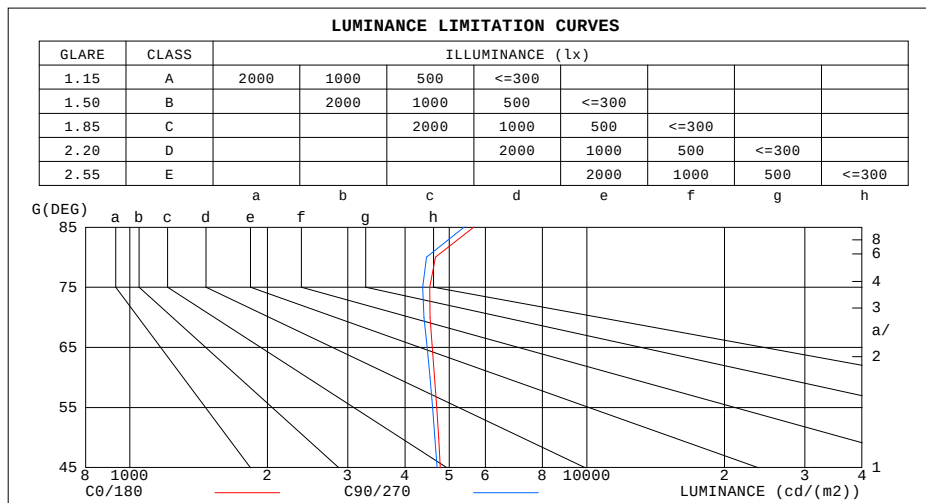
g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum, lamp
10	321.2	320.7	320.2	319.7	319.9	320.0	321.0	321.3	0- 10	30.87	30.87	3.09,3.09
20	304.9	303.9	302.7	301.9	302.0	302.5	304.5	305.1	10- 20	88.43	119.3	11.9,11.9
30	278.3	277.1	275.2	274.3	274.4	275.1	277.6	278.3	20- 30	134.1	253.4	25.3,25.3
40	242.6	241.6	239.3	238.3	238.2	238.9	241.7	242.7	30- 40	162.2	415.7	41.6,41.6
50	200.3	199.6	196.8	195.7	195.5	196.0	199.1	200.1	40- 50	169.6	585.3	58.5,58.5
60	152.6	152.3	149.2	148.2	147.7	148.0	151.3	152.2	50- 60	156.1	741.4	74.1,74.1
70	102.1	102.0	99.05	97.85	97.27	97.53	100.5	101.4	60- 70	123.9	865.2	86.5,86.5
80	53.22	53.28	50.98	49.58	48.77	49.12	51.38	52.33	70- 80	79.29	944.5	94.5,94.5
90	16.62	16.87	15.61	15.01	14.47	14.50	15.61	15.93	80- 90	34.92	979.4	97.9,97.9
100	1.789	1.038	0.8549	1.042	2.210	1.063	0.7821	1.004	90-100	7.848	987.3	98.7,98.7
110	2.234	1.469	1.372	1.665	1.879	1.482	1.241	1.523	100-110	1.373	988.7	98.9,98.9
120	2.600	2.488	2.660	2.518	2.533	2.651	2.591	2.516	110-120	2.112	990.8	99.1,99.1
130	3.365	2.843	3.227	3.077	3.385	2.815	3.375	3.078	120-130	2.655	993.4	99.3,99.3
140	3.897	2.977	4.277	2.969	3.837	2.065	3.617	2.271	130-140	2.559	996.0	99.6,99.6
150	2.358	2.544	4.210	2.175	2.321	2.424	4.010	2.013	140-150	1.725	997.7	99.8,99.8
160	2.358	2.347	2.802	2.306	2.408	2.484	2.291	2.446	150-160	1.221	998.9	99.9,99.9
170	2.427	2.695	3.139	2.757	2.436	2.677	3.846	2.650	160-170	0.8164	999.7	100,100
180	2.542	2.550	2.531	2.555	2.538	2.550	2.534	2.551	170-180	0.2527	1000.0	100,100
DEG	LUMINOUS INTENSITY:cd/klm									UNIT: lm/klm		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:L
Test Date:2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:8.200m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



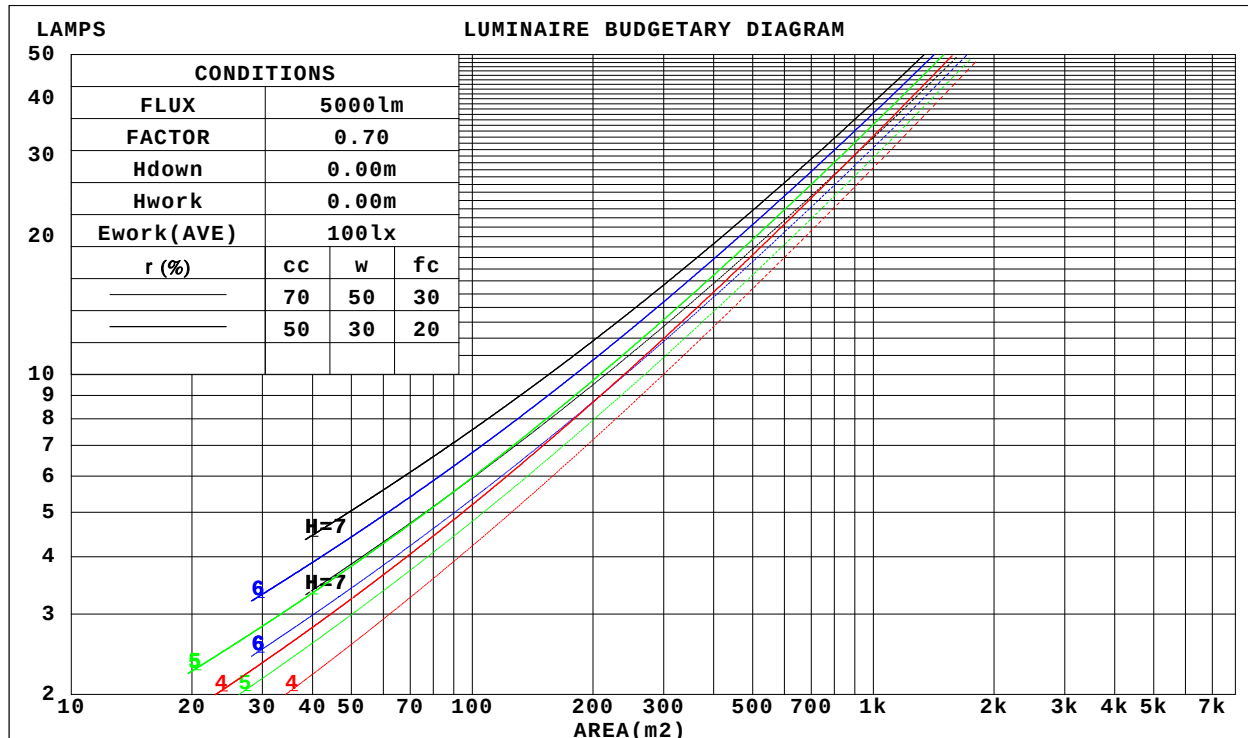
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: L
Test Date: 2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 8.200m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm															
NAME:				TYPE:				WEIGHT:							
SPEC.:				DIM.:				SERIAL No.:							
MFR.:				SUR.:				Shielding Angle:							

r cc	80%			70%			50%			30%			10%			0
r w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r fc	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	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	.98
1.0	1.02	.98	.93	.90	.96	.92	.95	.92	.88	.91	.88	.85	.87	.85	.82	.80
2.0	.89	.81	.75	.86	.80	.74	.83	.77	.72	.79	.74	.70	.76	.72	.68	.66
3.0	.78	.69	.62	.76	.68	.62	.72	.66	.60	.69	.64	.59	.67	.62	.58	.55
4.0	.68	.59	.52	.67	.59	.52	.64	.57	.51	.62	.55	.50	.59	.54	.49	.47
5.0	.61	.52	.45	.60	.51	.45	.57	.50	.44	.55	.49	.43	.53	.47	.43	.40
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.38	.50	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.35	.49	.40	.34	.47	.39	.34	.45	.39	.34	.44	.38	.33	.31
8.0	.45	.37	.31	.45	.36	.31	.43	.36	.30	.42	.35	.30	.40	.34	.30	.28
9.0	.42	.33	.28	.41	.33	.27	.40	.32	.27	.38	.32	.27	.37	.31	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.24	.34	.29	.24	.22



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: L
Test Date: 2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 8.200m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:		Shielding Angle:	

r c c	80%			70%			50%			30%			10%			0
r w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r f c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Wall Exitance Coefficients(WEC)															
0.0																
1.0	.332	.189	.060	.324	.185	.059	.310	.178	.057	.297	.171	.055	.284	.165	.053	
2.0	.305	.167	.051	.298	.164	.051	.285	.159	.049	.273	.153	.048	.262	.148	.047	
3.0	.279	.148	.044	.273	.146	.044	.261	.142	.043	.251	.137	.042	.241	.133	.041	
4.0	.255	.133	.039	.250	.131	.039	.240	.127	.038	.230	.124	.037	.221	.120	.037	
5.0	.235	.120	.035	.230	.118	.034	.221	.115	.034	.212	.112	.033	.205	.109	.033	
6.0	.217	.109	.031	.213	.107	.031	.205	.105	.031	.197	.102	.030	.190	.100	.030	
7.0	.201	.100	.028	.198	.098	.028	.190	.096	.028	.183	.094	.027	.177	.092	.027	
8.0	.188	.092	.026	.184	.091	.026	.178	.089	.025	.172	.087	.025	.166	.085	.025	
9.0	.176	.085	.024	.173	.084	.024	.167	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.165	.079	.022	.162	.078	.022	.157	.077	.022	.152	.075	.021	.147	.074	.021	

r c c	80%			70%			50%			30%			10%			0
r w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r f c	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Ceiling Cavity Exitance Coefficients(CCEC)															
0.0	.206	.206	.206	.176	.176	.176	.120	.120	.120	.069	.069	.069	.022	.022	.022	
1.0	.198	.172	.148	.169	.147	.128	.116	.101	.088	.067	.059	.051	.021	.019	.017	
2.0	.190	.148	.112	.163	.127	.097	.111	.088	.068	.064	.051	.040	.021	.017	.013	
3.0	.182	.130	.089	.156	.112	.077	.107	.078	.054	.062	.046	.032	.020	.015	.010	
4.0	.174	.117	.073	.150	.101	.064	.103	.071	.045	.060	.041	.027	.019	.013	.009	
5.0	.167	.107	.063	.143	.092	.054	.099	.065	.038	.057	.038	.023	.018	.012	.008	
6.0	.160	.099	.055	.137	.085	.048	.095	.060	.034	.055	.035	.020	.018	.011	.007	
7.0	.153	.092	.049	.131	.079	.043	.091	.056	.030	.053	.033	.018	.017	.011	.006	
8.0	.146	.086	.045	.126	.075	.039	.087	.052	.028	.051	.031	.016	.016	.010	.005	
9.0	.140	.081	.041	.120	.070	.036	.083	.049	.026	.049	.029	.015	.016	.010	.005	
10.0	.134	.077	.039	.116	.067	.034	.080	.047	.024	.047	.028	.014	.015	.009	.005	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: L
Test Date: 2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 8.200m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm										
NAME:					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:			Shielding 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	15.9	17.6	16.3	17.9	18.3	15.8	17.4	16.2	17.8	18.1
3H 4H 6H 8H 12H	18.0	19.4	18.4	19.8	20.2	17.8	19.2	18.2	19.6	20.0
	18.8	20.2	19.2	20.6	21.0	18.6	20.0	19.0	20.4	20.8
4H 2H	19.5	20.8	20.0	21.2	21.7	19.3	20.6	19.7	21.0	21.4
3H 4H 6H 8H	19.8	21.1	20.3	21.5	21.9	19.6	20.8	20.0	21.2	21.7
12H	20.1	21.3	20.6	21.7	22.2	19.9	21.0	20.3	21.5	21.9
8H 4H	16.6	18.0	17.1	18.4	18.8	16.4	17.8	16.9	18.2	18.7
6H 8H 12H	18.9	20.1	19.3	20.5	20.9	18.7	19.8	19.1	20.3	20.7
	19.9	20.9	20.3	21.4	21.9	19.6	20.7	20.1	21.1	21.6
12H 4H	20.7	21.7	21.2	22.2	22.7	20.5	21.4	21.0	21.9	22.4
6H	21.1	22.0	21.6	22.5	23.0	20.8	21.7	21.3	22.2	22.7
8H	21.5	22.3	22.0	22.8	23.3	21.2	22.0	21.7	22.5	23.0
	20.3	21.1	20.7	21.6	22.1	20.0	20.9	20.5	21.4	21.9
	21.3	22.0	21.8	22.6	23.1	21.0	21.8	21.5	22.3	22.8
	21.8	22.5	22.3	23.0	23.5	21.5	22.2	22.0	22.7	23.2
	22.3	22.9	22.8	23.4	24.0	22.0	22.6	22.5	23.1	23.7
	20.3	21.1	20.8	21.6	22.1	20.1	20.9	20.6	21.4	21.9
	21.4	22.1	22.0	22.6	23.2	21.1	21.8	21.7	22.3	22.9
	22.0	22.6	22.5	23.1	23.7	21.7	22.3	22.2	22.8	23.4
CIE190: 2010										

CIE190: 2010
Area: 0.1 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: L
Test Date: 2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 8.200m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

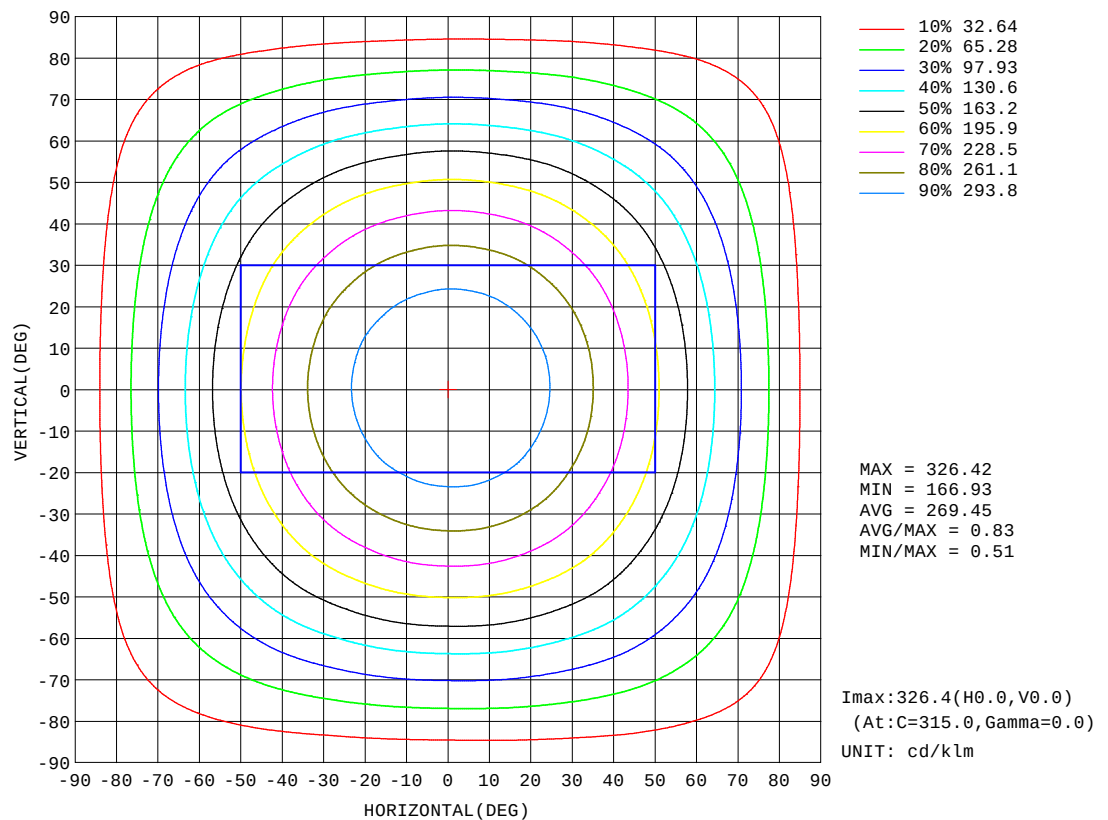
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	43	37	30
0.80	66	54	46	65	53	46	63	52	45	38
1.00	74	62	55	73	62	55	70	63	54	46
1.25	81	70	63	79	69	62	76	68	61	53
1.50	86	76	68	84	75	68	81	73	66	58
2.00	93	84	77	91	82	76	87	80	74	66
2.50	97	89	82	95	87	81	91	84	79	70
3.00	100	93	87	98	91	86	94	88	83	74
4.00	105	98	93	102	96	92	97	93	89	79
5.00	107	102	97	104	100	96	100	96	92	82
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: L
Test Date: 2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 8.200m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



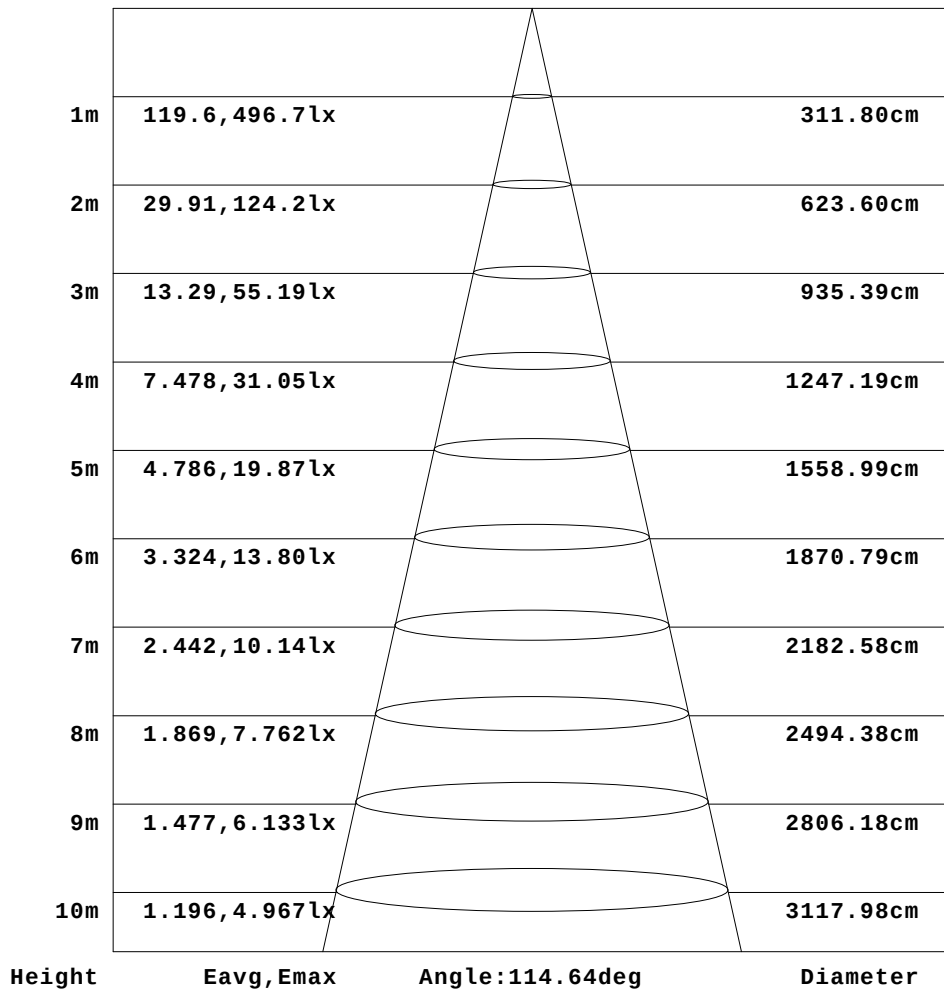
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:L
Test Date:2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:8.200m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:1128 lm



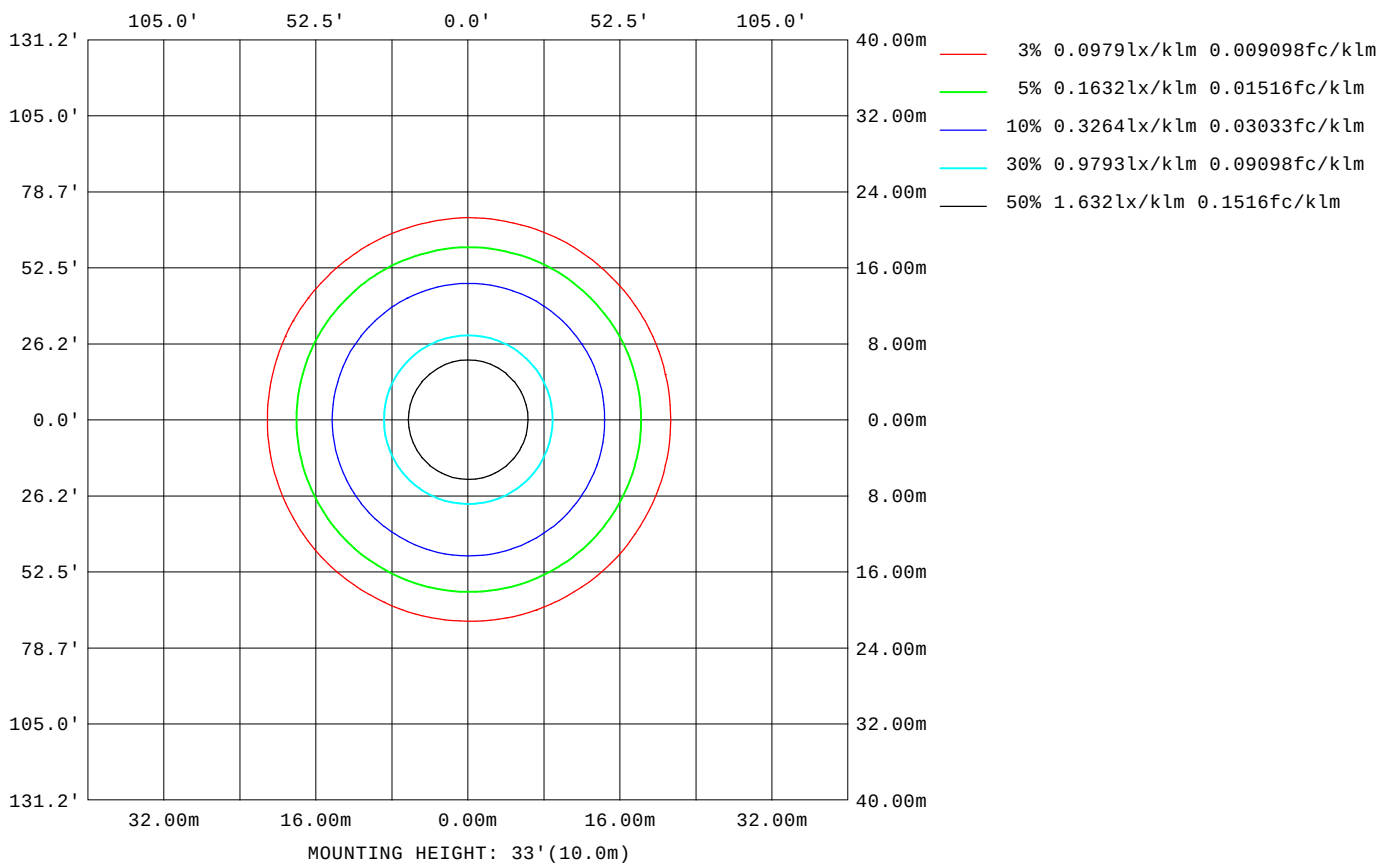
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:L
 Test Date:2020-08-17

g Range: 0 - 180DEG
 g Interval: 5.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: L
 Test Date: 2020-08-17

g Range: 0 - 180DEG
 g Interval: 5.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 8.200m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

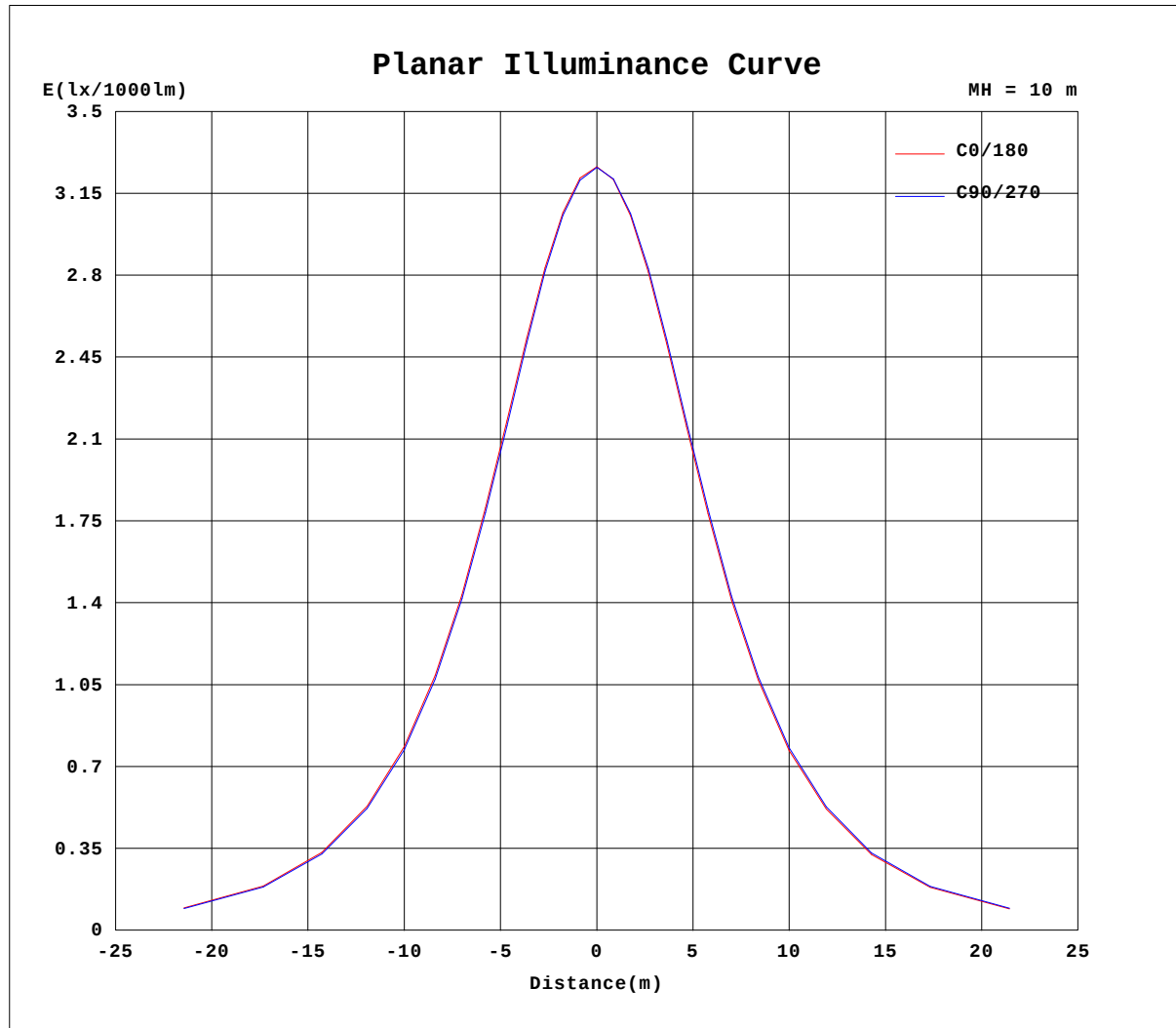
AvgL	cd/m2
L_0~180(65)av	4501
L_0~180(75)av	4390
L_0~180(85)av	5348
L_90~270(65)av	4505
L_90~270(75)av	4400
L_90~270(85)av	5385
L_45(65)av	4502
L_45(75)av	4393
L_45(85)av	5361

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:L
 Test Date:2020-08-17

g Range: 0 - 180DEG
 g Interval: 5.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: L
 Test Date: 2020-08-17

g Range: 0 - 180DEG
 g Interval: 5.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 8.200m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.33V I:0.1638A P:19.642W PF:0.9963 Freq:59.98Hz Lamp Flux:1520.99x1 lm					
NAME:			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:		Shielding Angle:

Table--2
UNIT: cd/klm

C(DEG) g (DEG)	285	300	315	330	345														
0	326	326	326	326	326														
5	325	325	325	325	325														
10	321	321	321	322	321														
15	314	315	315	315	315														
20	305	305	305	305	305														
25	292	293	293	293	293														
30	278	279	278	279	279														
35	261	262	261	262	262														
40	242	243	243	243	243														
45	221	222	222	223	223														
50	199	200	200	201	201														
55	176	177	177	177	177														
60	151	153	152	153	153														
65	126	127	127	128	128														
70	101	102	101	102	102														
75	75.5	76.5	76.3	76.9	77.0														
80	51.6	52.5	52.3	52.9	53.1														
85	31.0	31.7	31.6	32.1	32.3														
90	15.8	16.2	15.9	16.3	16.4														
95	6.18	6.17	5.64	6.12	6.49														
100	0.81	1.04	1.00	0.84	1.45														
105	1.05	1.14	1.07	1.17	1.31														
110	1.26	1.26	1.52	1.83	2.09														
115	2.03	1.91	2.06	2.27	2.02														
120	2.49	2.43	2.52	2.43	2.48														
125	3.01	2.95	3.13	2.92	2.90														
130	3.31	2.79	3.08	3.30	3.31														
135	3.00	3.83	2.24	2.89	3.70														
140	3.66	3.03	2.27	2.41	3.88														
145	2.20	2.15	1.93	2.18	2.34														
150	2.23	2.31	2.01	2.07	2.45														
155	2.13	2.73	2.29	2.60	2.70														
160	2.31	2.41	2.45	3.90	4.06														
165	3.49	2.42	2.37	2.52	2.96														
170	2.99	2.67	2.65	2.45	2.39														
175	2.72	2.72	2.70	2.61	2.49														
180	2.53	2.55	2.55	2.54	2.53														

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:L
Test Date:2020-08-17

g Range: 0 - 180DEG
g Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:8.200m [K=1.0000]
Remarks: