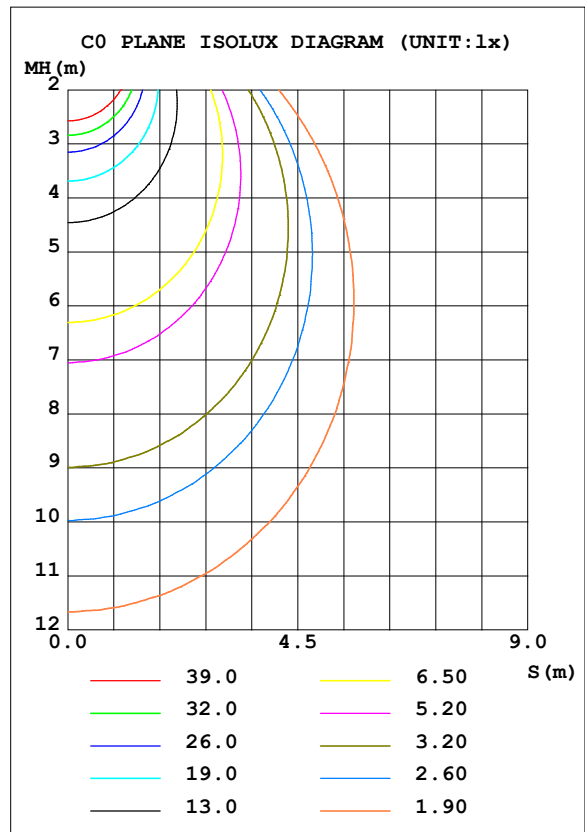
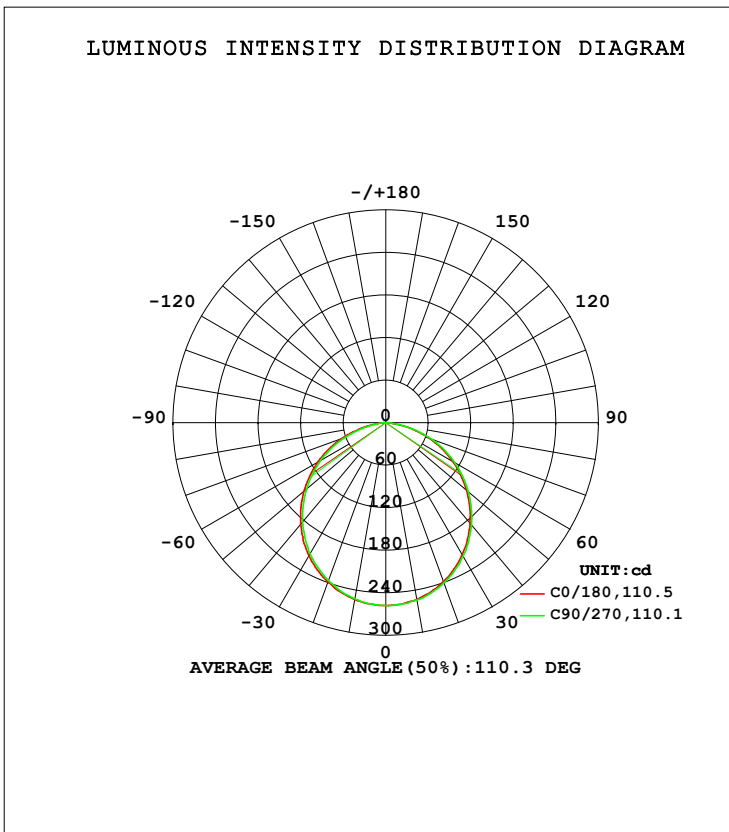


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 78.72 lm/W			
MODEL		Imax (cd)	259.1	S/MH (C0/180)	1.25
NOMINAL POWER (W)	9	LOR (%)	100.0	S/MH (C90/270)	1.24
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	710.04	<input type="checkbox"/> UP, DN (C0-180)	0.0,50.9
NOMINAL FLUX (lm)	710.038	CIE CLASS	DIRECT	<input type="checkbox"/> UP, DN (C180-360)	0.0,49.1
LAMPS INSIDE	1	<input type="checkbox"/> up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	<input type="checkbox"/> down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System: EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity: 65.0%  
 Test Distance: 3.080m [K=1.0000]  
 Remarks: PORTER

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

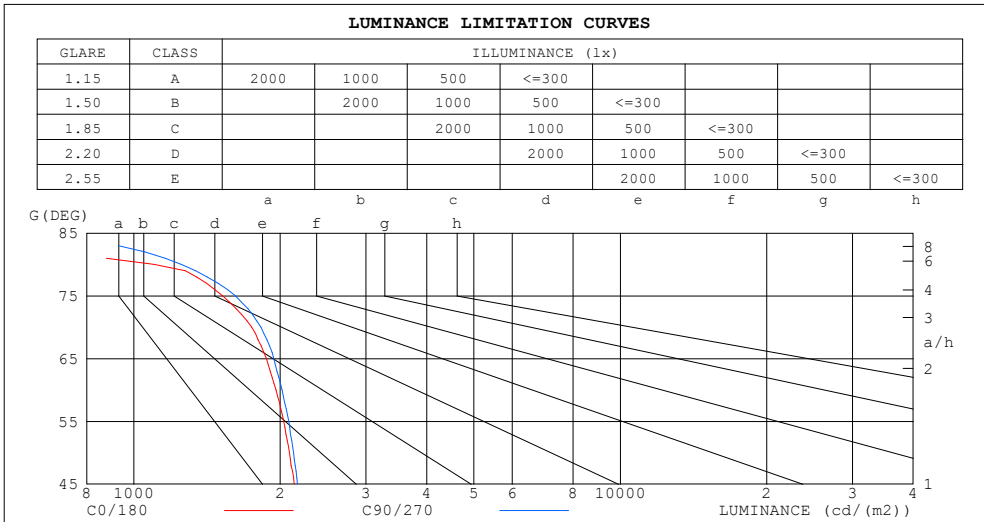
°	C0	C45	C90	C135	C180	C225	C270	C315	°	□ zone	□ total	%lum, lamp
10	253.2	254.6	254.1	253.3	253.7	253.7	252.3	252.1	0- 10	24.40	24.40	3.44,3.44
20	238.4	240.7	240.5	240.0	239.3	238.8	236.8	237.3	10- 20	69.73	94.13	13.3,13.3
30	215.5	218.0	218.0	217.7	216.9	215.0	213.6	213.4	20- 30	105.2	199.4	28.1,28.1
40	185.2	187.3	188.1	187.3	186.7	184.3	182.8	182.9	30- 40	126.1	325.4	45.8,45.8
50	149.0	151.3	152.2	151.4	150.8	147.7	145.9	146.2	40- 50	129.5	454.9	64.1,64.1
60	108.7	110.5	112.1	110.9	109.9	106.8	105.4	105.4	50- 60	115.6	570.5	80.3,80.3
70	66.31	68.27	69.35	68.47	66.71	63.55	60.92	62.91	60- 70	86.52	657.0	92.5,92.5
80	21.18	25.85	24.17	25.29	21.74	20.47	16.74	19.89	70- 80	45.79	702.8	99,99
90	0.1213	0.1192	0.1022	0.1158	0.1953	0.2099	0.2060	0.2132	80- 90	7.218	710.0	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

□ Range: 0 - 90DEG  
 □ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

**LUMINANCE LIMITATION CURVES**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



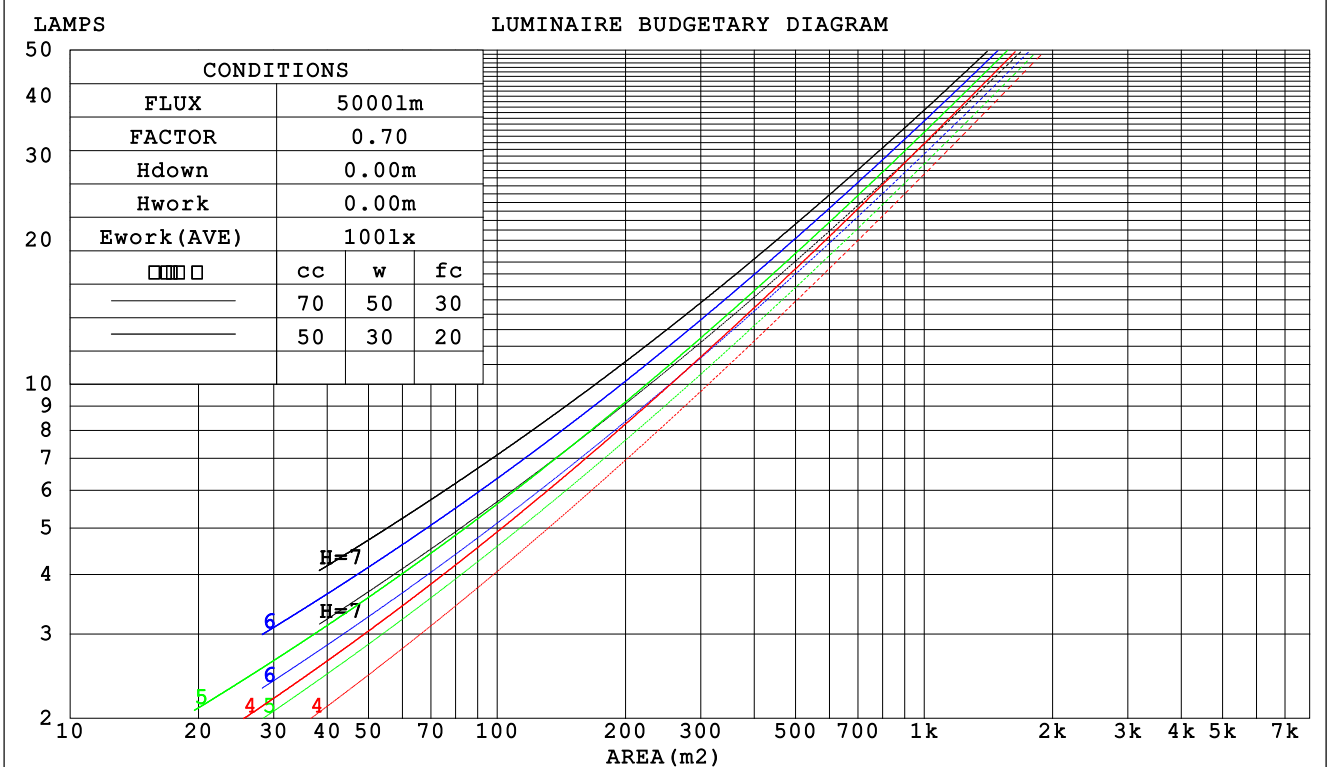
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

□cc	80%			70%			50%			30%			10%			0
□w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
□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	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.05	1.00	.97	1.02	.98	.95	.98	.95	.92	.94	.92	.89	.91	.89	.87	.85
2.0	.91	.85	.79	.89	.83	.78	.86	.81	.76	.83	.78	.74	.80	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.67	.63	.70	.66	.62	.60
4.0	.71	.62	.56	.70	.62	.55	.67	.60	.55	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.55	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.39	.33	.45	.38	.33	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.42	.34	.29	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.25



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

□ Range: 0 - 90DEG  
 □ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

WEC AND CCEC

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

<input type="checkbox"/> cc	80%	70%	50%	30%	10%	0
<input type="checkbox"/> w	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
<input type="checkbox"/> fc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio		Wall Exitance Coefficients (WEC)			
0.0						
1.0	.297 .169 .054	.290 .166 .053	.277 .159 .051	.265 .153 .049	.254 .147 .047	
2.0	.284 .156 .048	.278 .153 .047	.266 .148 .046	.256 .143 .045	.246 .139 .044	
3.0	.265 .141 .042	.259 .139 .042	.249 .135 .041	.239 .131 .040	.231 .128 .040	
4.0	.245 .128 .037	.241 .126 .037	.231 .123 .037	.223 .120 .036	.215 .117 .036	
5.0	.227 .116 .034	.223 .115 .033	.215 .112 .033	.208 .110 .033	.200 .107 .032	
6.0	.211 .106 .030	.208 .105 .030	.200 .103 .030	.194 .101 .030	.187 .099 .029	
7.0	.197 .097 .028	.194 .096 .027	.187 .095 .027	.181 .093 .027	.175 .091 .027	
8.0	.184 .090 .025	.181 .089 .025	.175 .088 .025	.170 .086 .025	.165 .085 .025	
9.0	.173 .084 .023	.170 .083 .023	.165 .082 .023	.160 .080 .023	.155 .079 .023	
10.0	.163 .078 .022	.160 .077 .022	.155 .076 .021	.151 .075 .021	.147 .074 .021	

<input type="checkbox"/> cc	80%	70%	50%	30%	10%	0
<input type="checkbox"/> w	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	50% 30% 10%	0
<input type="checkbox"/> fc	20%	20%	20%	20%	20%	0
RCR	RCR:Room Cavity Ratio		Ceiling Cavity Exitance Coefficients (CCEC)			
0.0	.190 .190 .190	.163 .163 .163	.111 .111 .111	.064 .064 .064	.020 .020 .020	
1.0	.179 .156 .135	.154 .134 .116	.105 .092 .081	.060 .053 .047	.019 .017 .015	
2.0	.171 .132 .099	.147 .114 .086	.101 .079 .060	.058 .046 .035	.019 .015 .011	
3.0	.163 .114 .075	.140 .099 .065	.096 .068 .046	.056 .040 .027	.018 .013 .009	
4.0	.156 .101 .059	.134 .087 .051	.092 .061 .036	.053 .036 .021	.017 .012 .007	
5.0	.149 .090 .048	.128 .078 .041	.088 .055 .029	.051 .032 .017	.016 .010 .006	
6.0	.141 .082 .039	.122 .071 .034	.084 .050 .024	.049 .029 .014	.016 .010 .005	
7.0	.135 .075 .033	.116 .065 .029	.080 .046 .021	.047 .027 .012	.015 .009 .004	
8.0	.128 .069 .029	.110 .060 .025	.076 .042 .018	.044 .025 .011	.014 .008 .004	
9.0	.122 .064 .025	.105 .056 .022	.073 .039 .016	.043 .023 .009	.014 .008 .003	
10.0	.117 .060 .023	.101 .052 .020	.070 .037 .014	.041 .022 .008	.013 .007 .003	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

**UGR(Unified Glare Rating) Table**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm										
NAME: LED-S9W-5CCTWH-SQ					TYPE:			WEIGHT:		
SPEC.:5000K 80					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	16.6	18.1	16.9	18.3	18.5	16.7	18.2	17.0	18.4	18.6
3H	18.1	19.5	18.4	19.7	19.9	18.2	19.6	18.5	19.8	20.1
4H	18.6	19.9	18.9	20.2	20.4	18.8	20.1	19.1	20.3	20.6
6H	18.9	20.1	19.2	20.4	20.7	19.1	20.3	19.4	20.6	20.9
8H	18.9	20.1	19.2	20.4	20.7	19.1	20.3	19.5	20.6	20.9
12H	18.9	20.0	19.2	20.3	20.6	19.1	20.3	19.5	20.6	20.9
4H 2H	17.2	18.5	17.5	18.8	19.0	17.3	18.6	17.6	18.9	19.1
3H	18.9	20.0	19.2	20.3	20.6	19.0	20.1	19.3	20.4	20.7
4H	19.5	20.6	19.9	20.9	21.2	19.7	20.7	20.0	21.0	21.4
6H	19.9	20.8	20.3	21.2	21.6	20.1	21.0	20.5	21.4	21.7
8H	19.9	20.8	20.4	21.2	21.6	20.2	21.0	20.6	21.4	21.8
12H	19.9	20.7	20.4	21.1	21.5	20.2	21.0	20.6	21.4	21.8
8H 4H	19.8	20.6	20.2	21.0	21.4	19.9	20.8	20.3	21.1	21.5
6H	20.3	21.0	20.7	21.4	21.8	20.4	21.1	20.9	21.6	22.0
8H	20.4	21.0	20.8	21.4	21.9	20.6	21.2	21.0	21.6	22.1
12H	20.4	20.9	20.9	21.4	21.9	20.6	21.2	21.1	21.6	22.1
12H 4H	19.8	20.5	20.2	20.9	21.3	19.9	20.7	20.3	21.1	21.5
6H	20.3	20.9	20.8	21.4	21.8	20.5	21.1	20.9	21.5	22.0
8H	20.4	21.0	20.9	21.4	21.9	20.6	21.2	21.1	21.6	22.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 710.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.2)  
 Area: 0.111111 m2

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

**UTILIZATION FACTORS TABLE**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

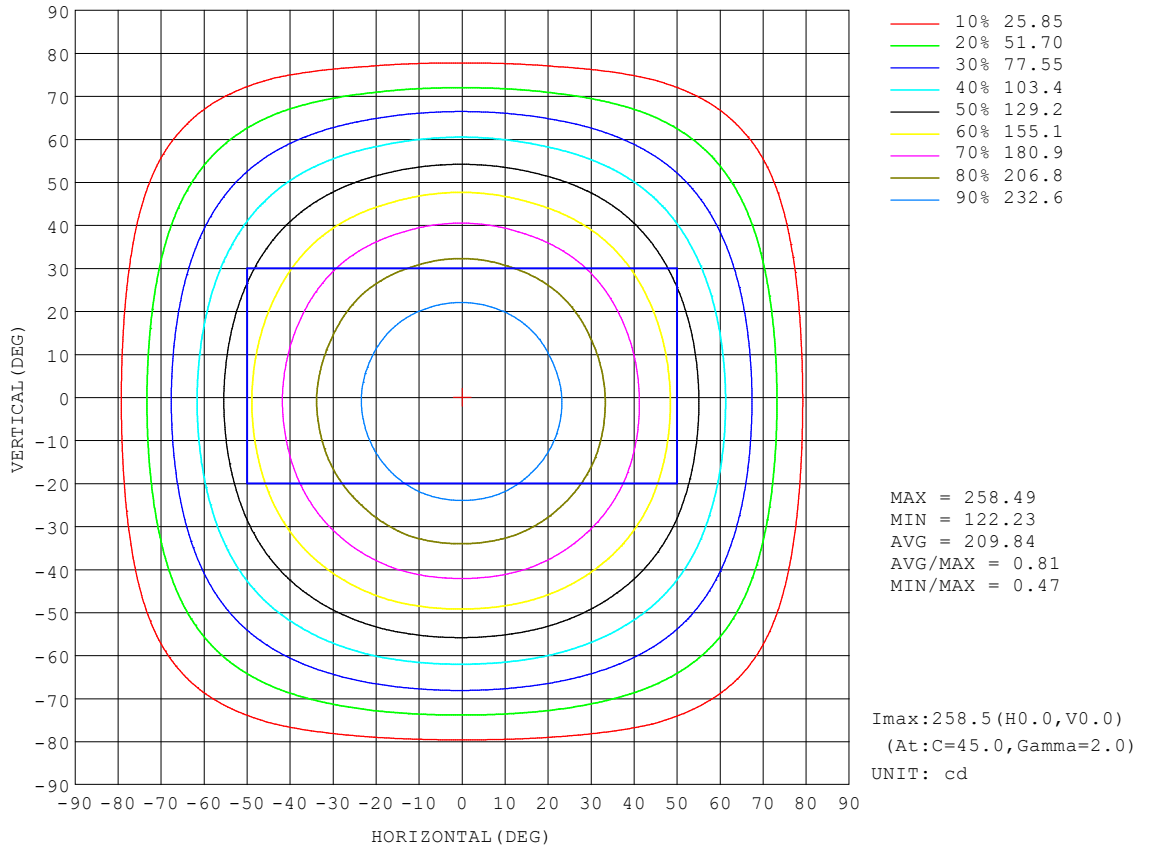
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	58	47	40	57	46	40	56	46	39	33
0.80	68	57	50	67	56	49	65	56	49	42
1.00	77	66	59	76	65	58	73	67	58	51
1.25	84	74	67	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	77	71	63
2.00	96	87	81	94	86	80	90	84	79	71
2.50	100	92	86	98	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	100	95	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

ISOCANDELA DIAGRAM

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



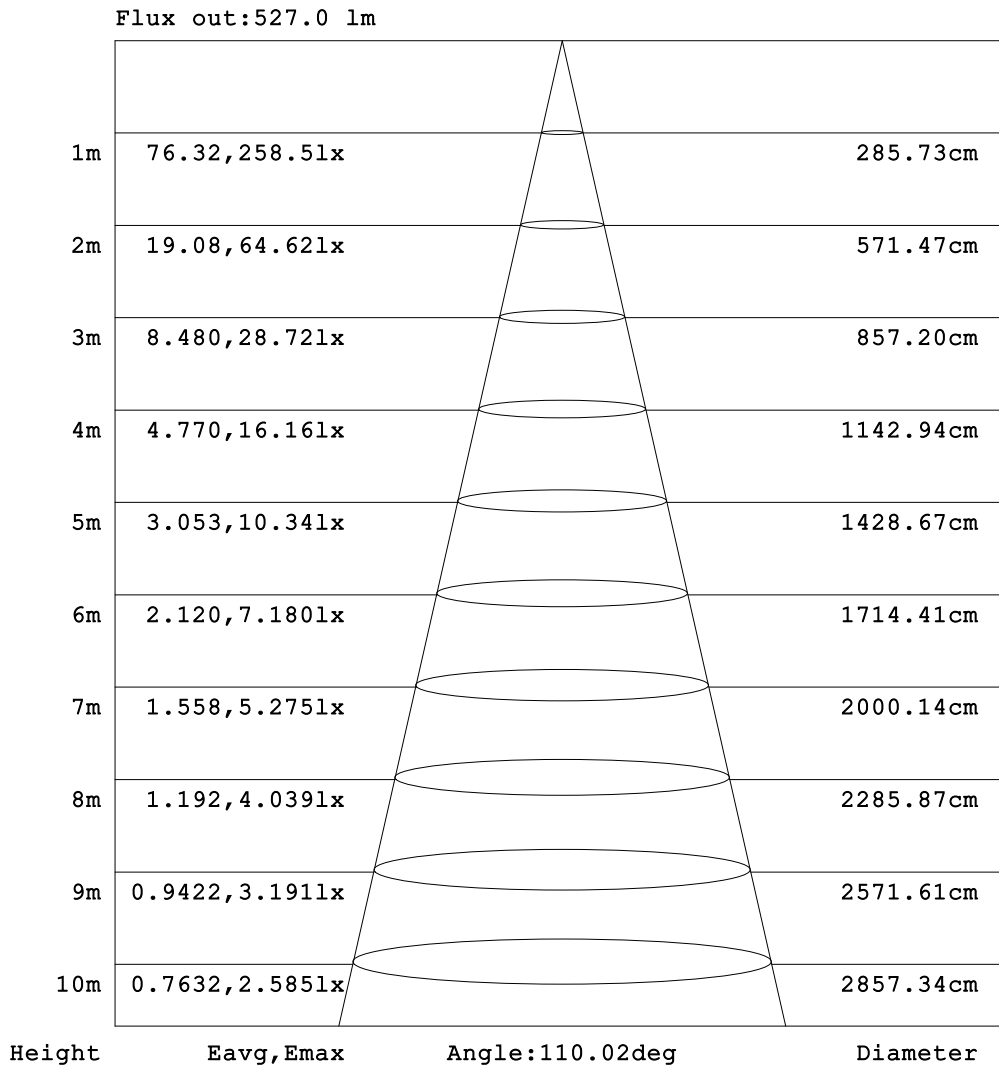
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER



**AAI Figure**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



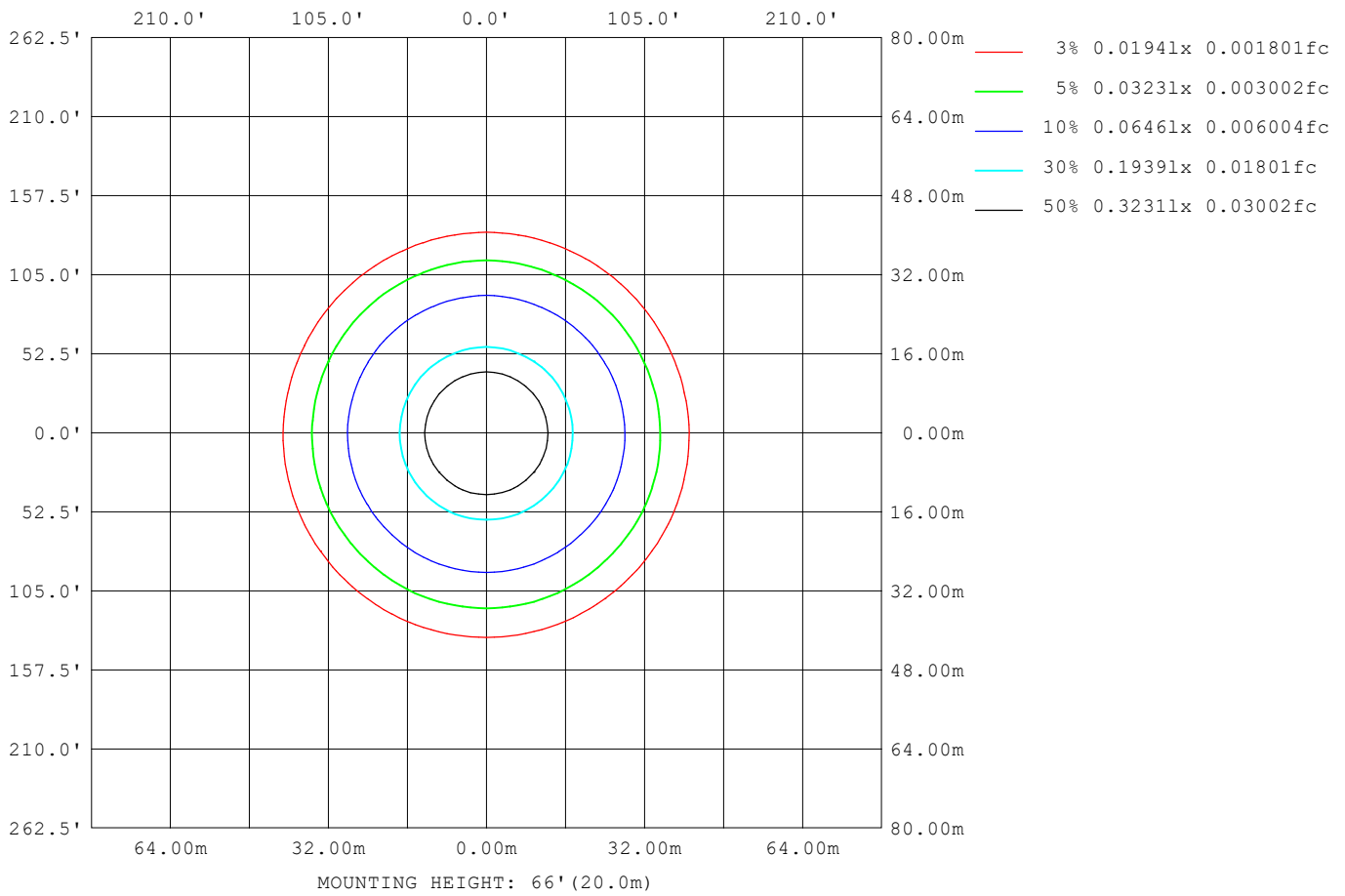
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

**ISOLUX DIAGRAM**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

**LED Avg.L Report**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

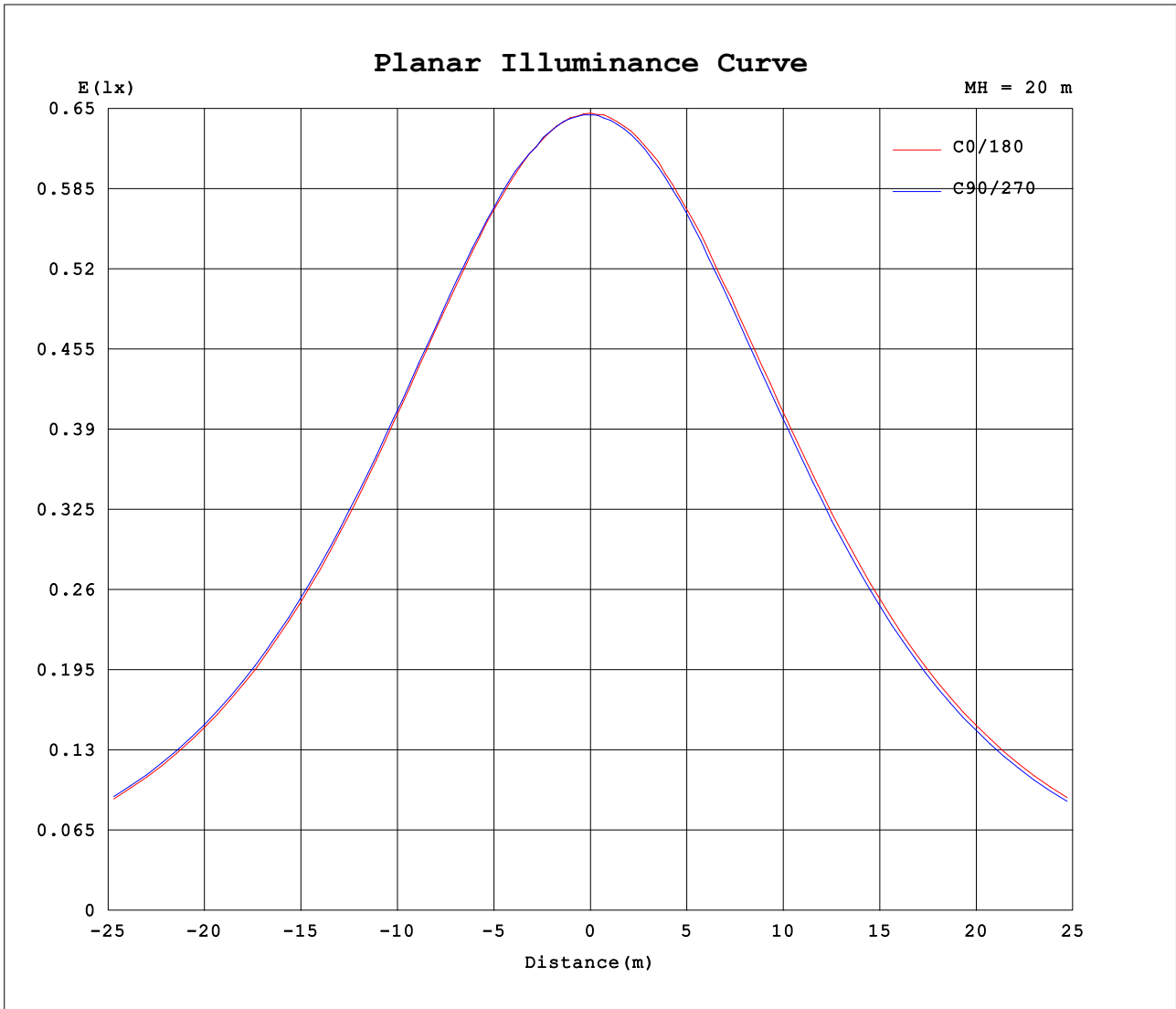
AvgL	cd/m2
L_0~180 (65) av	1880
L_0~180 (75) av	1522
L_0~180 (85) av	495
L_90~270 (65) av	1863
L_90~270 (75) av	1460
L_90~270 (85) av	312
L_45 (65) av	1860
L_45 (75) av	1535
L_45 (85) av	470

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER

**Planar Illuminance Curve**



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2021-12-30

Range: 0 - 90DEG  
 Interval: 1.0DEG  
 Test System: EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity: 65.0%  
 Test Distance: 3.080m [K=1.0000]  
 Remarks: PORTER

**LUMINOUS DISTRIBUTION INTENSITY DATA**

Test:U:119.98V I:0.1200A P:9.0193W PF:0.8975 Freq:59.98Hz Lamp Flux:710.038x1 lm		
NAME: LED-S9W-5CCTWH-SQ	TYPE:	WEIGHT:
SPEC.:5000K 80	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ □ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258			
5	257	257	258	257	257	257	257	257	257	257	258	256	256	256	256	256			
10	253	254	255	254	254	254	253	254	254	253	254	253	252	252	252	252			
15	247	247	249	248	248	248	248	248	248	247	247	245	246	246	246	246			
20	238	240	241	240	240	241	240	240	239	238	239	237	237	237	237	238			
25	228	229	230	230	230	230	229	230	229	228	228	226	226	226	227	227			
30	215	217	218	219	218	219	218	217	217	215	215	213	214	213	213	214			
35	201	203	204	204	204	205	203	203	203	201	201	199	199	198	199	199			
40	185	187	187	188	188	189	187	188	187	185	184	182	183	182	183	183			
45	168	169	170	171	170	172	170	170	169	167	167	165	165	164	165	166			
50	149	151	151	152	152	153	151	152	151	148	148	146	146	145	146	147			
55	129	131	131	132	133	133	132	131	131	128	127	126	126	125	126	127			
60	109	110	111	112	112	112	111	111	110	108	107	105	105	105	105	106			
65	87.8	89.1	89.7	90.7	91.1	91.1	90.0	89.7	88.8	86.7	85.3	83.7	83.9	83.6	84.3	85.6			
70	66.3	67.6	68.3	68.9	69.4	69.3	68.5	68.2	66.7	65.1	63.6	61.5	60.9	61.2	62.9	64.3			
75	43.7	45.4	46.8	46.7	46.5	46.9	47.0	45.3	43.9	42.2	41.6	38.3	37.5	38.1	41.2	41.9			
80	21.2	23.7	25.8	24.7	24.2	24.6	25.3	23.4	21.7	20.6	20.5	17.4	16.7	17.2	19.9	20.3			
85	4.88	6.42	6.70	6.00	5.74	5.84	6.26	6.05	4.71	4.65	2.67	0.42	0.30	0.39	2.58	4.66			
90	0.12	0.14	0.12	0.10	0.10	0.11	0.12	0.13	0.20	0.22	0.21	0.21	0.21	0.21	0.21	0.24			

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021-12-30

□ Range: 0 - 90DEG  
 □ Interval: 1.0DEG  
 Test System:EVERFINE GO-SPEX500\_V1 SYSTEM V2.00.421  
 Humidity:65.0%  
 Test Distance:3.080m [K=1.0000]  
 Remarks: PORTER