

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242821

Luminaire Tested: S125DRP-S610D930-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242821  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-22)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S125DRP-S610D930-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

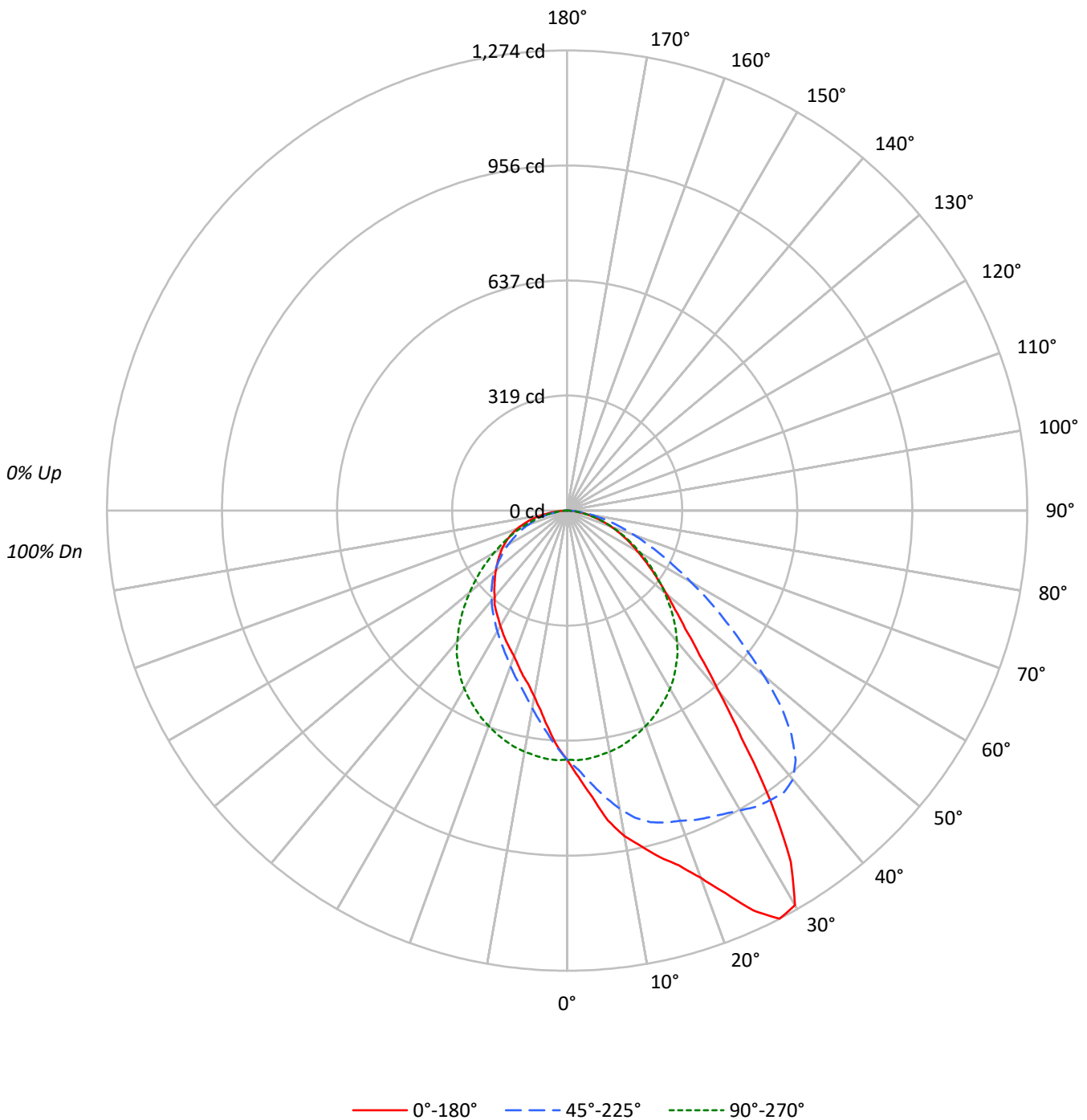
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1946.0 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 18.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	80	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	63	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	56	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	4901	4901	4901	4901	4901
5°	5675	5407	4918	4423	4306
10°	6603	6046	4892	4007	3772
15°	7310	6571	4856	3683	3480
20°	8182	6912	4800	3469	3245
25°	9585	7343	4735	3289	3131
30°	10353	7865	4672	3169	3032
35°	8512	8494	4553	3085	2966
40°	6050	9021	4388	3017	2895
45°	4648	8829	4165	2957	2854
50°	3967	7855	3890	2884	2848
55°	3533	6670	3619	2778	2872
60°	3187	5633	3325	2679	2945
65°	2943	4800	3027	2544	3022
70°	2677	4081	2718	2371	3065
75°	2364	3488	2395	2186	3037
80°	1989	2865	1952	1858	2779
85°	1574	2079	1411	1525	2243

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 8829 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.4	3.4
10°-20°	197.7	10.2
20°-30°	321.1	16.5
30°-40°	392.4	20.2
40°-50°	356.0	18.3
50°-60°	283.6	14.6
60°-70°	197.5	10.1
70°-80°	105.2	5.4
80°-90°	26.1	1.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	585.2	30.1
0°-40°	977.6	50.2
0°-60°	1617.2	83.1
0°-90°	1946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1946.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	690	690	690	690	690	
5°	796	758	689	620	604	80
15°	993	893	660	500	473	284
25°	1222	936	604	419	399	560
35°	981	979	525	356	342	602
45°	462	878	414	294	284	368
55°	285	538	292	224	232	256
65°	175	285	180	151	180	174
75°	86	127	87	80	111	93
85°	19	26	17	19	28	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6
2.5°	739.3	738.2	737.0	734.7	736.4	731.4	729.1	725.0	720.0	718.3	716.2
5°	795.5	797.0	798.5	792.3	792.9	788.8	779.4	771.8	765.7	757.8	752.2
7.5°	865.2	860.8	861.1	857.3	850.6	845.0	835.9	823.3	811.9	799.0	787.9
10°	914.9	915.2	912.6	907.9	900.6	895.3	882.5	870.2	855.2	837.7	825.1
12.5°	952.4	953.9	950.4	943.6	941.0	927.5	918.2	902.9	884.5	871.3	850.6
15°	993.4	990.2	987.8	979.9	973.8	961.5	945.4	930.2	910.8	893.0	875.1
17.5°	1029.7	1032.3	1028.5	1022.7	1004.5	990.2	970.3	950.9	927.8	905.6	884.8
20°	1081.8	1084.1	1077.4	1064.8	1042.0	1027.6	999.2	972.3	944.5	913.8	890.4
22.5°	1146.8	1143.8	1134.2	1113.4	1094.4	1064.8	1033.5	999.2	962.7	926.9	893.9
25°	1222.3	1210.0	1204.4	1180.7	1154.7	1115.7	1073.6	1025.6	982.3	936.3	896.5
27.5°	1273.8	1268.8	1260.9	1241.6	1211.7	1167.5	1117.8	1060.4	1002.2	946.0	895.9
30°	1261.5	1262.1	1262.7	1257.4	1239.8	1208.5	1159.0	1096.1	1023.5	958.3	898.0
32.5°	1152.6	1165.8	1178.4	1194.8	1205.3	1205.6	1179.2	1123.9	1048.7	972.3	896.8
35°	981.1	984.3	1017.4	1050.2	1094.7	1129.2	1152.3	1127.1	1064.2	979.0	895.9
37.5°	793.2	809.3	834.2	871.0	937.8	992.2	1063.6	1088.2	1058.7	984.6	895.6
40°	652.1	666.7	681.7	719.4	773.6	843.2	927.2	998.9	1015.6	972.3	886.8
42.5°	543.2	554.1	571.0	597.1	640.1	699.8	779.1	878.4	946.3	936.6	868.4
45°	462.4	469.8	482.6	505.2	538.0	586.3	657.1	759.5	848.8	878.4	837.1
47.5°	405.1	405.4	415.9	432.0	456.9	501.4	554.4	638.6	734.9	803.1	793.5
50°	358.8	357.4	365.3	378.7	397.5	424.7	474.7	538.8	630.5	710.4	732.6
52.5°	319.0	319.6	323.7	332.8	347.7	370.0	404.2	460.4	535.3	617.9	664.7
55°	285.1	283.9	289.5	296.2	307.6	322.8	349.8	394.0	457.5	538.3	592.7
57.5°	252.3	255.5	257.9	262.5	272.5	283.0	307.0	341.0	393.4	465.1	522.7
60°	224.2	227.4	229.2	233.9	241.5	250.2	267.8	294.2	336.6	396.3	453.4
62.5°	199.0	201.4	201.7	205.8	211.6	220.1	233.0	254.1	285.4	335.7	391.3
65°	175.0	175.0	176.2	180.6	183.5	191.1	201.7	217.8	244.7	285.4	333.1
67.5°	151.6	153.1	152.8	154.8	157.5	163.9	171.8	185.3	206.6	237.4	276.9
70°	128.8	130.0	129.7	131.1	134.1	137.9	144.0	156.6	170.9	196.4	229.2
72.5°	108.3	108.6	107.7	109.8	111.2	114.4	121.5	126.7	139.9	160.4	185.9
75°	86.1	86.6	87.2	88.4	90.1	91.9	95.4	102.1	110.9	127.0	144.3
77.5°	68.5	67.0	68.8	68.5	69.4	70.8	74.1	77.9	85.5	96.3	110.6
80°	48.6	48.9	48.9	49.2	50.6	51.5	54.1	56.8	62.3	70.0	79.3
82.5°	32.2	33.1	32.5	33.1	34.2	34.8	36.0	38.0	40.7	46.2	52.4
85°	19.3	17.9	18.4	19.0	19.0	19.3	20.5	21.4	23.1	25.5	28.1
87.5°	7.0	7.6	7.9	7.9	8.2	8.2	9.4	9.4	10.2	11.1	12.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6
2.5°	714.5	712.4	710.1	706.0	701.0	698.4	694.3	691.6	686.4	682.0	677.3
5°	745.5	737.9	730.8	721.8	711.8	705.4	697.8	689.3	680.5	671.4	661.5
7.5°	776.5	763.9	750.2	735.8	721.8	708.6	696.3	683.7	672.3	658.0	646.0
10°	807.8	790.8	772.7	751.3	730.6	712.4	694.0	677.9	661.5	643.9	628.4
12.5°	839.1	815.1	787.6	763.6	737.6	714.7	692.2	670.6	648.9	629.0	610.3
15°	850.6	830.7	806.9	773.6	745.5	715.3	686.6	660.0	635.1	613.5	590.6
17.5°	861.7	836.2	811.0	778.8	742.3	709.8	677.3	648.3	620.8	593.6	572.8
20°	864.3	838.0	811.3	780.0	742.3	703.6	671.1	634.6	604.4	576.0	549.1
22.5°	863.4	832.7	803.1	770.7	734.1	699.2	658.3	620.8	587.4	559.6	531.2
25°	857.0	825.1	788.8	756.3	720.0	682.3	642.5	603.8	570.5	538.5	510.7
27.5°	853.2	812.8	773.0	735.5	700.7	665.9	627.2	587.4	550.8	518.4	492.6
30°	844.7	799.3	753.1	713.6	677.6	643.9	607.9	569.3	530.6	499.0	470.9
32.5°	837.1	782.4	732.9	689.0	650.4	617.9	585.4	549.1	511.3	479.1	451.0
35°	826.8	765.7	709.8	661.2	620.5	586.8	559.0	524.8	490.0	458.9	432.0
37.5°	814.8	744.0	684.9	634.3	590.1	554.9	528.6	502.0	467.1	436.7	412.7
40°	800.2	720.6	657.1	605.0	558.7	521.9	497.9	473.0	445.2	417.4	391.6
42.5°	781.8	699.5	629.0	571.9	526.3	490.5	465.1	444.9	421.2	395.7	372.3
45°	758.4	673.2	598.3	538.0	491.7	456.3	430.3	414.4	396.0	371.4	351.2
47.5°	727.3	643.3	566.1	503.7	456.0	423.2	398.4	382.8	369.4	350.1	331.0
50°	683.1	609.1	530.6	468.9	421.2	388.1	365.6	351.8	340.7	326.6	311.1
52.5°	633.7	566.1	495.8	434.9	387.8	355.3	333.4	321.7	312.9	303.8	288.6
55°	580.7	522.2	455.4	397.5	353.9	322.0	302.6	292.1	284.5	276.9	267.5
57.5°	523.6	476.2	415.0	360.9	320.5	290.6	272.5	261.7	255.5	251.4	245.6
60°	462.7	423.5	372.6	324.3	285.1	259.3	241.8	233.9	228.9	225.7	221.6
62.5°	406.3	375.8	329.6	286.5	253.5	229.5	214.2	206.6	202.0	200.8	197.6
65°	350.9	326.1	287.1	250.5	221.3	200.5	187.3	180.0	177.1	175.3	175.6
67.5°	295.3	279.2	246.7	214.5	190.5	172.1	161.3	155.7	154.2	151.6	151.6
70°	245.3	233.9	207.5	180.3	159.5	146.1	136.7	130.8	129.4	128.2	127.9
72.5°	201.1	191.4	169.5	149.0	130.8	119.4	112.1	109.2	106.5	106.0	106.0
75°	157.8	152.2	134.1	116.8	103.9	95.7	90.4	87.2	85.5	85.2	85.5
77.5°	119.1	113.9	101.3	88.4	79.9	73.5	68.5	67.6	65.3	65.6	65.0
80°	84.3	81.1	73.8	64.1	57.4	52.1	49.8	47.7	47.1	46.2	47.1
82.5°	55.3	51.8	47.4	42.1	36.9	34.2	31.9	31.6	31.3	31.0	31.0
85°	30.1	30.4	27.5	22.8	20.5	18.7	17.3	17.3	17.0	16.7	17.0
87.5°	12.9	12.3	11.1	10.2	8.8	7.9	7.6	7.9	7.0	6.7	7.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6	689.6
2.5°	674.6	671.4	668.8	662.9	659.7	655.3	651.8	655.6	651.5	653.3	650.6
5°	656.5	648.3	642.5	634.0	626.6	619.9	614.9	614.1	611.7	610.5	607.0
7.5°	634.8	625.5	615.8	605.3	596.5	587.1	581.6	576.3	573.1	569.0	565.8
10°	616.1	602.4	590.6	577.2	565.5	555.2	547.0	542.9	539.1	533.6	531.5
12.5°	593.0	578.6	563.7	549.1	538.0	526.3	519.5	512.8	510.5	504.0	503.7
15°	575.4	554.1	540.0	525.4	509.9	500.5	494.6	487.9	485.0	480.6	477.4
17.5°	553.8	534.5	516.9	502.0	487.9	480.3	472.7	468.0	463.0	459.8	454.5
20°	529.8	511.6	494.1	478.0	467.7	458.6	452.8	448.4	443.1	441.7	436.4
22.5°	509.6	489.1	472.4	459.5	448.1	437.6	431.1	428.5	425.3	420.0	420.0
25°	487.3	466.5	452.2	438.7	428.8	419.4	415.0	411.2	407.7	404.5	403.3
27.5°	468.6	450.2	432.6	420.3	411.8	403.0	399.2	394.3	391.6	389.0	385.5
30°	448.7	429.7	414.7	403.0	393.7	386.1	382.0	378.7	376.4	374.1	372.3
32.5°	428.2	410.9	396.6	385.2	375.8	370.5	367.0	365.0	362.3	359.4	357.1
35°	410.6	391.3	377.3	367.3	360.0	355.6	351.5	349.5	346.5	346.5	344.2
37.5°	389.9	372.9	360.3	351.2	344.8	340.7	336.0	334.8	332.8	331.6	330.7
40°	371.7	356.2	344.5	335.4	328.4	325.2	321.7	319.3	318.2	316.7	316.1
42.5°	353.0	338.3	327.2	319.0	313.2	310.5	307.3	305.9	303.2	301.2	300.9
45°	334.0	319.6	309.4	302.6	297.4	294.2	292.1	288.6	287.4	285.1	284.8
47.5°	316.4	302.3	292.1	286.5	281.9	279.5	276.3	272.5	271.0	269.6	269.3
50°	296.2	283.6	274.2	269.0	264.6	260.8	257.6	255.2	254.3	254.3	254.9
52.5°	275.7	265.5	257.9	251.1	247.0	242.9	240.0	238.8	237.4	239.1	240.3
55°	255.8	245.0	239.1	233.0	228.9	224.2	222.7	222.2	221.3	223.6	224.8
57.5°	234.4	227.1	220.1	213.7	210.2	207.2	204.9	204.6	206.3	206.9	210.4
60°	214.2	205.5	199.3	194.6	190.2	188.5	187.9	187.3	188.5	191.7	196.7
62.5°	192.0	185.3	178.5	175.3	172.4	169.2	169.2	169.8	172.4	176.2	181.2
65°	170.3	164.2	159.8	155.7	153.1	151.3	151.9	153.1	155.7	160.7	166.2
67.5°	148.1	144.0	139.9	136.1	133.5	133.8	134.1	135.5	138.7	144.6	149.9
70°	126.7	122.1	118.8	117.4	115.3	114.1	115.9	118.8	121.5	126.7	131.1
72.5°	105.4	101.6	99.2	98.3	97.8	96.9	97.2	100.4	104.2	109.5	114.7
75°	84.3	82.8	81.1	79.9	79.0	79.6	80.2	83.1	86.1	91.6	97.5
77.5°	65.3	63.5	62.3	62.1	61.5	61.8	63.2	65.6	68.5	72.6	77.3
80°	46.5	46.0	45.4	45.1	45.1	45.4	47.7	49.2	51.8	55.6	59.1
82.5°	30.7	30.4	30.4	30.4	30.7	30.7	31.9	34.0	36.0	38.6	41.6
85°	17.9	17.3	18.1	18.4	17.9	18.7	19.3	20.5	21.4	22.8	24.3
87.5°	7.3	7.9	7.6	7.9	7.9	8.5	8.2	9.4	10.0	10.5	10.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242821

CATALOG NUMBER: S125DRP-S610D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	689.6	689.6	689.6	689.6
2.5°	648.9	650.9	649.2	651.5
5°	605.6	602.9	604.7	603.5
7.5°	565.5	563.1	559.6	558.5
10°	528.3	525.1	524.8	522.7
12.5°	501.1	498.2	494.1	493.5
15°	475.6	473.3	471.2	473.0
17.5°	454.0	451.9	451.3	449.6
20°	433.8	432.3	432.9	429.1
22.5°	417.7	414.4	413.9	413.9
25°	400.7	399.2	397.8	399.2
27.5°	385.8	384.3	383.7	384.0
30°	372.3	369.4	369.7	369.4
32.5°	357.7	355.9	355.3	354.7
35°	343.3	343.3	341.9	341.9
37.5°	330.2	329.9	329.0	329.6
40°	314.9	314.6	313.8	312.0
42.5°	300.3	299.1	298.8	298.5
45°	284.8	284.8	284.2	283.9
47.5°	269.6	270.2	271.3	271.0
50°	256.1	256.4	257.3	257.6
52.5°	241.2	243.2	244.4	244.1
55°	227.4	229.5	231.5	231.8
57.5°	213.7	216.3	218.3	218.9
60°	199.6	203.4	206.1	207.2
62.5°	186.2	190.5	193.2	193.2
65°	171.2	175.6	178.0	179.7
67.5°	155.7	160.1	162.4	163.9
70°	138.4	142.8	146.3	147.5
72.5°	121.5	125.3	127.9	129.4
75°	101.3	106.5	109.2	110.6
77.5°	82.0	87.2	88.7	89.6
80°	62.6	65.6	67.6	67.9
82.5°	44.5	46.8	47.1	48.0
85°	26.3	27.5	27.8	27.5
87.5°	10.8	10.5	10.5	11.1
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242821  
 CATALOG NUMBER: S125DRP-S610D930-X4F0-XX-UDD-A-W

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	16.18	17.75	16.54	18.06	18.37	16.15	17.72	16.52	18.03	18.35
	3H	17.55	18.96	17.93	19.29	19.65	17.58	18.99	17.96	19.32	19.68
	4H	18.04	19.37	18.44	19.72	20.09	18.07	19.39	18.47	19.74	20.12
	6H	18.38	19.60	18.79	19.97	20.36	18.38	19.61	18.79	19.97	20.36
	8H	18.47	19.64	18.90	20.03	20.43	18.46	19.63	18.89	20.02	20.42
	12H	18.52	19.64	18.95	20.02	20.45	18.50	19.62	18.93	20.00	20.43
4H	2H	17.68	19.01	18.08	19.36	19.74	17.23	18.55	17.63	18.90	19.28
	3H	19.03	20.13	19.44	20.53	20.93	18.89	20.00	19.30	20.39	20.79
	4H	19.54	20.53	19.97	20.95	21.38	19.45	20.44	19.88	20.86	21.29
	6H	19.91	20.78	20.37	21.22	21.68	19.82	20.69	20.28	21.13	21.59
	8H	20.01	20.82	20.47	21.27	21.73	19.92	20.73	20.38	21.17	21.64
	12H	20.08	20.80	20.56	21.28	21.75	19.97	20.70	20.45	21.17	21.65
8H	4H	20.02	20.83	20.48	21.28	21.74	19.79	20.60	20.25	21.04	21.51
	6H	20.47	21.14	20.97	21.63	22.11	20.29	20.96	20.79	21.45	21.93
	8H	20.62	21.22	21.13	21.73	22.21	20.44	21.04	20.95	21.55	22.03
	12H	20.72	21.25	21.23	21.74	22.31	20.54	21.07	21.04	21.56	22.12
12H	4H	20.07	20.79	20.55	21.27	21.74	19.81	20.53	20.29	21.01	21.48
	6H	20.55	21.16	21.07	21.67	22.15	20.34	20.94	20.85	21.45	21.94
	8H	20.75	21.28	21.26	21.77	22.33	20.54	21.08	21.05	21.57	22.13