

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: P242816

Luminaire Tested: S125DRP-S610D840-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242816
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-S610D840-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

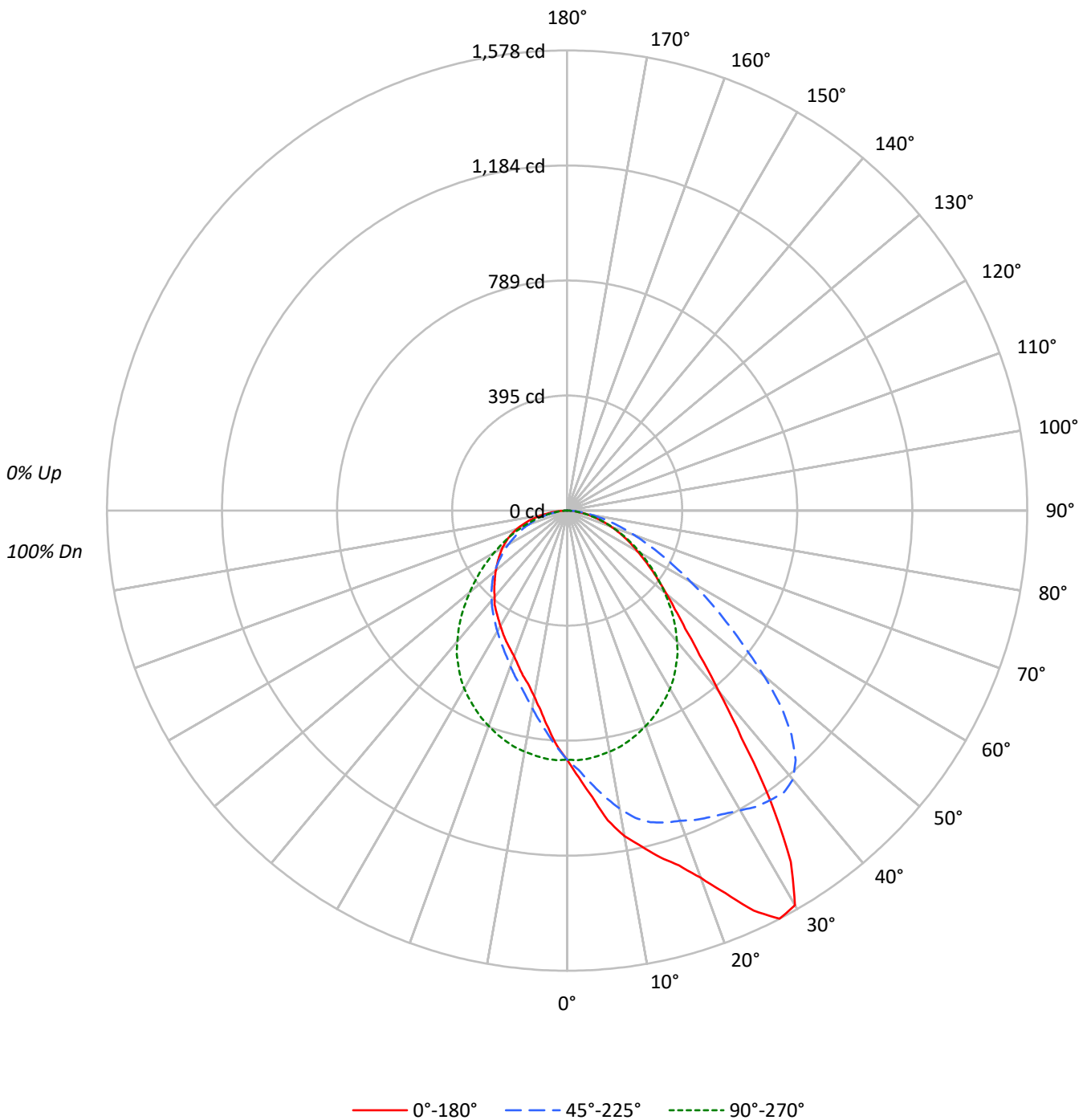
Lumens per Lamp: N/A
Luminaire Lumens: 2410.4 lumens
Efficiency: N/A
Efficacy: 128.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P242816

CATALOG NUMBER: S125DRP-S610D840-X4F0-XX-UDD-A-W

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°	6070	6070	6070	6070	6070
5°	7030	6696	6091	5479	5334
10°	8179	7488	6059	4963	4673
15°	9054	8139	6015	4561	4311
20°	10134	8560	5945	4297	4020
25°	11873	9095	5865	4074	3878
30°	12823	9741	5787	3925	3755
35°	10544	10522	5640	3822	3674
40°	7494	11174	5436	3737	3586
45°	5757	10936	5160	3663	3535
50°	4915	9729	4819	3571	3527
55°	4375	8261	4483	3441	3558
60°	3947	6978	4118	3319	3649
65°	3646	5945	3750	3152	3744
70°	3314	5056	3369	2938	3797
75°	2927	4320	2966	2708	3762
80°	2464	3545	2419	2300	3442
85°	1949	2569	1745	1892	2781

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 10936 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.2	3.4
10°-20°	244.9	10.2
20°-30°	397.8	16.5
30°-40°	486.1	20.2
40°-50°	441.0	18.3
50°-60°	351.2	14.6
60°-70°	244.6	10.1
70°-80°	130.3	5.4
80°-90°	32.3	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°	724.8	30.1
0°-40°	1210.9	50.2
0°-60°	2003.1	83.1
0°-90°	2410.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2410.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	854	854	854	854	854	
5°	985	939	854	768	748	99
15°	1230	1106	818	620	586	352
25°	1514	1160	748	520	494	694
35°	1215	1213	650	440	423	746
45°	573	1088	513	364	352	456
55°	353	667	362	278	287	317
65°	217	354	223	187	223	215
75°	107	157	108	99	137	115
85°	24	32	21	23	34	28
90°	0	0	0	0	0	



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CATALOG NUMBER: S125DRP-S610D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1
2.5°	915.8	914.3	912.9	910.0	912.1	906.0	903.1	898.0	891.8	889.7	887.1
5°	985.4	987.2	989.0	981.4	982.1	977.0	965.4	956.0	948.4	938.6	931.7
7.5°	1071.7	1066.2	1066.6	1061.9	1053.5	1046.6	1035.4	1019.8	1005.7	989.7	976.0
10°	1133.3	1133.7	1130.4	1124.6	1115.5	1109.0	1093.1	1077.8	1059.3	1037.6	1022.0
12.5°	1179.7	1181.5	1177.2	1168.8	1165.6	1148.9	1137.3	1118.4	1095.6	1079.3	1053.5
15°	1230.5	1226.5	1223.6	1213.8	1206.2	1190.9	1171.0	1152.1	1128.2	1106.1	1084.0
17.5°	1275.4	1278.7	1274.0	1266.7	1244.2	1226.5	1201.8	1177.9	1149.2	1121.7	1096.0
20°	1339.9	1342.8	1334.5	1318.9	1290.6	1272.9	1237.7	1204.4	1169.9	1131.8	1102.8
22.5°	1420.4	1416.8	1404.8	1379.1	1355.5	1318.9	1280.1	1237.7	1192.4	1148.2	1107.2
25°	1514.0	1498.7	1491.8	1462.5	1430.2	1382.0	1329.8	1270.3	1216.7	1159.8	1110.5
27.5°	1577.8	1571.6	1561.8	1537.9	1500.9	1446.2	1384.5	1313.5	1241.3	1171.7	1109.7
30°	1562.5	1563.3	1564.0	1557.5	1535.7	1496.9	1435.6	1357.7	1267.8	1186.9	1112.3
32.5°	1427.7	1444.0	1459.6	1479.9	1492.9	1493.3	1460.7	1392.1	1299.0	1204.4	1110.8
35°	1215.2	1219.2	1260.2	1300.8	1355.9	1398.7	1427.3	1396.1	1318.2	1212.7	1109.7
37.5°	982.5	1002.4	1033.2	1078.9	1161.6	1229.0	1317.5	1347.9	1311.3	1219.6	1109.4
40°	807.7	825.9	844.4	891.1	958.2	1044.5	1148.5	1237.3	1258.0	1204.4	1098.5
42.5°	672.9	686.3	707.3	739.6	792.9	866.8	965.1	1088.0	1172.1	1160.1	1075.6
45°	572.8	581.9	597.8	625.7	666.3	726.2	813.9	940.8	1051.4	1088.0	1036.9
47.5°	501.8	502.1	515.2	535.1	565.9	621.0	686.6	791.1	910.3	994.8	982.8
50°	444.5	442.7	452.4	469.1	492.3	526.0	588.0	667.4	780.9	879.9	907.4
52.5°	395.2	395.9	401.0	412.2	430.7	458.2	500.7	570.3	663.1	765.3	823.3
55°	353.1	351.7	358.5	366.9	381.0	399.9	433.2	488.0	566.6	666.7	734.1
57.5°	312.5	316.5	319.4	325.2	337.5	350.6	380.3	422.4	487.3	576.1	647.5
60°	277.7	281.7	283.9	289.7	299.1	310.0	331.7	364.4	416.9	490.9	561.6
62.5°	246.5	249.4	249.8	254.9	262.1	272.6	288.6	314.7	353.5	415.8	484.7
65°	216.8	216.8	218.2	223.7	227.3	236.7	249.8	269.7	303.1	353.5	412.6
67.5°	187.8	189.6	189.2	191.8	195.0	203.0	212.8	229.5	256.0	294.0	343.0
70°	159.5	161.0	160.6	162.4	166.0	170.8	178.4	194.0	211.7	243.3	283.9
72.5°	134.1	134.5	133.4	136.0	137.8	141.8	150.5	157.0	173.3	198.7	230.2
75°	106.6	107.3	108.0	109.5	111.7	113.8	118.2	126.5	137.4	157.3	178.7
77.5°	84.8	83.0	85.2	84.8	85.9	87.7	91.7	96.4	105.9	119.3	137.0
80°	60.2	60.5	60.5	60.9	62.7	63.8	67.1	70.3	77.2	86.6	98.2
82.5°	39.9	41.0	40.2	41.0	42.4	43.1	44.6	47.1	50.4	57.3	64.9
85°	23.9	22.1	22.8	23.6	23.6	23.9	25.4	26.5	28.6	31.5	34.8
87.5°	8.7	9.4	9.8	9.8	10.2	10.2	11.6	11.6	12.7	13.8	15.2
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: P242816

CATALOG NUMBER: S125DRP-S610D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1
2.5°	885.0	882.4	879.5	874.4	868.3	865.0	859.9	856.7	850.2	844.7	838.9
5°	923.4	914.0	905.3	894.0	881.7	873.7	864.3	853.8	842.9	831.7	819.3
7.5°	961.8	946.2	929.2	911.4	894.0	877.7	862.5	846.9	832.7	815.0	800.1
10°	1000.6	979.6	957.1	930.6	904.9	882.4	859.6	839.6	819.3	797.6	778.4
12.5°	1039.4	1009.7	975.6	945.9	913.6	885.3	857.4	830.6	803.7	779.1	755.9
15°	1053.5	1028.9	999.5	958.2	923.4	886.0	850.5	817.5	786.7	759.9	731.6
17.5°	1067.3	1035.8	1004.6	964.7	919.4	879.2	838.9	803.0	768.9	735.2	709.5
20°	1070.6	1037.9	1005.0	966.2	919.4	871.5	831.3	786.0	748.6	713.5	680.1
22.5°	1069.5	1031.4	994.8	954.6	909.2	866.1	815.3	768.9	727.6	693.2	658.0
25°	1061.5	1022.0	977.0	936.8	891.8	845.1	795.8	747.9	706.6	667.1	632.6
27.5°	1056.8	1006.8	957.5	911.1	867.9	824.8	776.9	727.6	682.3	642.1	610.2
30°	1046.3	990.1	932.8	883.9	839.3	797.6	753.0	705.1	657.3	618.1	583.3
32.5°	1036.9	969.1	907.8	853.4	805.6	765.3	725.1	680.1	633.4	593.5	558.7
35°	1024.2	948.4	879.2	819.0	768.6	726.9	692.4	650.0	606.9	568.5	535.1
37.5°	1009.3	921.6	848.3	785.6	730.9	687.4	654.7	621.8	578.6	540.9	511.2
40°	991.2	892.6	813.9	749.4	692.1	646.4	616.7	585.9	551.4	517.0	485.1
42.5°	968.3	866.5	779.1	708.4	651.8	607.6	576.1	551.1	521.7	490.2	461.1
45°	939.3	833.8	741.0	666.3	609.1	565.2	532.9	513.4	490.5	460.1	435.0
47.5°	900.9	796.9	701.1	623.9	564.8	524.2	493.4	474.2	457.5	433.6	410.0
50°	846.2	754.4	657.3	580.8	521.7	480.7	452.8	435.8	422.0	404.6	385.4
52.5°	784.9	701.1	614.1	538.7	480.4	440.1	412.9	398.4	387.6	376.3	357.5
55°	719.3	646.8	564.1	492.3	438.3	398.8	374.9	361.8	352.4	343.0	331.4
57.5°	648.6	589.8	514.1	447.0	397.0	360.0	337.5	324.1	316.5	311.4	304.2
60°	573.2	524.6	461.5	401.7	353.1	321.2	299.5	289.7	283.5	279.5	274.4
62.5°	503.2	465.5	408.2	354.9	314.0	284.2	265.4	256.0	250.2	248.7	244.7
65°	434.7	403.9	355.6	310.3	274.1	248.3	232.0	223.0	219.3	217.2	217.5
67.5°	365.8	345.9	305.6	265.7	236.0	213.2	199.8	192.9	191.1	187.8	187.8
70°	303.8	289.7	257.0	223.3	197.6	180.9	169.3	162.1	160.2	158.8	158.4
72.5°	249.1	237.1	209.9	184.5	162.1	147.9	138.9	135.2	132.0	131.2	131.2
75°	195.4	188.5	166.0	144.7	128.7	118.5	112.0	108.0	105.9	105.5	105.9
77.5°	147.6	141.0	125.4	109.5	99.0	91.0	84.8	83.7	80.8	81.2	80.5
80°	104.4	100.4	91.4	79.4	71.1	64.5	61.6	59.1	58.4	57.3	58.4
82.5°	68.5	64.2	58.7	52.2	45.7	42.4	39.5	39.2	38.8	38.4	38.4
85°	37.3	37.7	34.1	28.3	25.4	23.2	21.4	21.4	21.0	20.7	21.0
87.5°	16.0	15.2	13.8	12.7	10.9	9.8	9.4	9.8	8.7	8.3	8.7
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: P242816

CATALOG NUMBER: S125DRP-S610D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1	854.1
2.5°	835.6	831.7	828.4	821.1	817.2	811.7	807.4	812.1	807.0	809.2	805.9
5°	813.2	803.0	795.8	785.3	776.2	767.9	761.7	760.6	757.7	756.3	751.9
7.5°	786.3	774.7	762.8	749.7	738.9	727.3	720.4	713.8	709.8	704.8	700.8
10°	763.1	746.1	731.6	714.9	700.4	687.7	677.6	672.5	667.8	660.9	658.4
12.5°	734.5	716.7	698.2	680.1	666.3	651.8	643.5	635.2	632.3	624.3	623.9
15°	712.7	686.3	668.9	650.8	631.5	619.9	612.7	604.4	600.7	595.3	591.3
17.5°	685.9	662.0	640.2	621.8	604.4	594.9	585.5	579.7	573.5	569.5	563.0
20°	656.2	633.7	612.0	592.0	579.3	568.1	560.8	555.4	548.9	547.1	540.5
22.5°	631.2	605.8	585.1	569.2	555.0	542.0	534.0	530.8	526.8	520.2	520.2
25°	603.6	577.9	560.1	543.4	531.1	519.5	514.1	509.4	505.0	501.0	499.6
27.5°	580.4	557.6	535.8	520.6	510.1	499.2	494.5	488.3	485.1	481.8	477.5
30°	555.8	532.2	513.7	499.2	487.6	478.2	473.1	469.1	466.2	463.3	461.1
32.5°	530.4	509.0	491.2	477.1	465.5	459.0	454.6	452.1	448.8	445.2	442.3
35°	508.6	484.7	467.3	455.0	445.9	440.5	435.4	432.9	429.2	429.2	426.3
37.5°	482.9	461.9	446.3	435.0	427.1	422.0	416.2	414.7	412.2	410.8	409.7
40°	460.4	441.2	426.7	415.5	406.8	402.8	398.4	395.5	394.1	392.3	391.5
42.5°	437.2	419.1	405.3	395.2	387.9	384.7	380.7	378.9	375.6	373.1	372.7
45°	413.7	395.9	383.2	374.9	368.3	364.4	361.8	357.5	356.0	353.1	352.7
47.5°	391.9	374.5	361.8	354.9	349.1	346.2	342.2	337.5	335.7	333.9	333.5
50°	366.9	351.3	339.7	333.2	327.7	323.0	319.0	316.1	315.0	315.0	315.8
52.5°	341.5	328.8	319.4	311.1	306.0	300.9	297.3	295.8	294.0	296.2	297.6
55°	316.9	303.4	296.2	288.6	283.5	277.7	275.9	275.2	274.1	277.0	278.4
57.5°	290.4	281.3	272.6	264.7	260.3	256.7	253.8	253.4	255.6	256.3	260.7
60°	265.4	254.5	246.9	241.1	235.6	233.5	232.7	232.0	233.5	237.5	243.6
62.5°	237.8	229.5	221.1	217.2	213.5	209.5	209.5	210.3	213.5	218.2	224.4
65°	211.0	203.4	197.9	192.9	189.6	187.4	188.2	189.6	192.9	199.0	205.9
67.5°	183.4	178.4	173.3	168.6	165.3	165.7	166.0	167.9	171.8	179.1	185.6
70°	157.0	151.2	147.2	145.4	142.8	141.4	143.6	147.2	150.5	157.0	162.4
72.5°	130.5	125.8	122.9	121.8	121.1	120.0	120.4	124.4	129.1	135.6	142.1
75°	104.4	102.6	100.4	99.0	97.9	98.6	99.3	103.0	106.6	113.5	120.7
77.5°	80.8	78.7	77.2	76.9	76.1	76.5	78.3	81.2	84.8	89.9	95.7
80°	57.6	56.9	56.2	55.8	55.8	56.2	59.1	60.9	64.2	68.9	73.2
82.5°	38.1	37.7	37.7	37.7	38.1	38.1	39.5	42.1	44.6	47.9	51.5
85°	22.1	21.4	22.5	22.8	22.1	23.2	23.9	25.4	26.5	28.3	30.1
87.5°	9.1	9.8	9.4	9.8	9.8	10.5	10.2	11.6	12.3	13.1	12.7
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: P242816

CATALOG NUMBER: S125DRP-S610D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	854.1	854.1	854.1	854.1
2.5°	803.7	806.3	804.1	807.0
5°	750.1	746.8	749.0	747.6
7.5°	700.4	697.5	693.2	691.7
10°	654.4	650.4	650.0	647.5
12.5°	620.7	617.0	612.0	611.2
15°	589.1	586.2	583.7	585.9
17.5°	562.3	559.8	559.0	556.9
20°	537.3	535.5	536.2	531.5
22.5°	517.3	513.4	512.6	512.6
25°	496.3	494.5	492.7	494.5
27.5°	477.8	476.0	475.3	475.6
30°	461.1	457.5	457.9	457.5
32.5°	443.0	440.8	440.1	439.4
35°	425.3	425.3	423.4	423.4
37.5°	408.9	408.6	407.5	408.2
40°	390.1	389.7	388.6	386.5
42.5°	372.0	370.5	370.2	369.8
45°	352.7	352.7	352.0	351.7
47.5°	333.9	334.6	336.1	335.7
50°	317.2	317.6	318.7	319.0
52.5°	298.7	301.3	302.7	302.4
55°	281.7	284.2	286.8	287.1
57.5°	264.7	267.9	270.5	271.2
60°	247.3	252.0	255.2	256.7
62.5°	230.6	236.0	239.3	239.3
65°	212.1	217.5	220.4	222.6
67.5°	192.9	198.3	201.2	203.0
70°	171.5	176.9	181.3	182.7
72.5°	150.5	155.2	158.4	160.2
75°	125.4	132.0	135.2	137.0
77.5°	101.5	108.0	109.8	110.9
80°	77.6	81.2	83.7	84.1
82.5°	55.1	58.0	58.4	59.5
85°	32.6	34.1	34.4	34.1
87.5°	13.4	13.1	13.1	13.8
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242816

CATALOG NUMBER: S125DRP-S610D840-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	16.92	18.49	17.29	18.80	19.12	16.90	18.46	17.26	18.78	19.09
	3H	18.29	19.70	18.67	20.03	20.39	18.32	19.73	18.70	20.06	20.42
	4H	18.79	20.11	19.18	20.46	20.84	18.81	20.14	19.21	20.48	20.86
	6H	19.12	20.35	19.53	20.71	21.10	19.13	20.35	19.54	20.72	21.11
	8H	19.21	20.38	19.64	20.77	21.17	19.21	20.37	19.63	20.76	21.16
	12H	19.26	20.38	19.69	20.76	21.19	19.25	20.36	19.68	20.75	21.18
4H	2H	18.43	19.75	18.83	20.10	20.48	17.97	19.30	18.37	19.65	20.02
	3H	19.77	20.88	20.18	21.28	21.68	19.64	20.74	20.05	21.14	21.54
	4H	20.28	21.28	20.71	21.69	22.13	20.19	21.18	20.62	21.60	22.04
	6H	20.65	21.52	21.11	21.96	22.42	20.56	21.43	21.02	21.87	22.33
	8H	20.76	21.57	21.22	22.01	22.48	20.66	21.47	21.12	21.91	22.38
	12H	20.82	21.55	21.30	22.02	22.49	20.72	21.44	21.20	21.92	22.39
8H	4H	20.77	21.58	21.23	22.02	22.49	20.53	21.34	20.99	21.78	22.25
	6H	21.22	21.89	21.71	22.38	22.85	21.03	21.70	21.53	22.19	22.67
	8H	21.36	21.96	21.87	22.47	22.96	21.18	21.78	21.69	22.29	22.78
	12H	21.46	21.99	21.97	22.49	23.05	21.28	21.81	21.79	22.30	22.87
12H	4H	20.81	21.54	21.29	22.01	22.49	20.55	21.27	21.03	21.75	22.22
	6H	21.30	21.90	21.81	22.41	22.90	21.08	21.68	21.59	22.19	22.68
	8H	21.49	22.02	22.00	22.51	23.08	21.29	21.82	21.79	22.31	22.87