

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: P242934

Luminaire Tested: S125RDRP-S610D940-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242934  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-32)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S125RDRP-S610D940-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

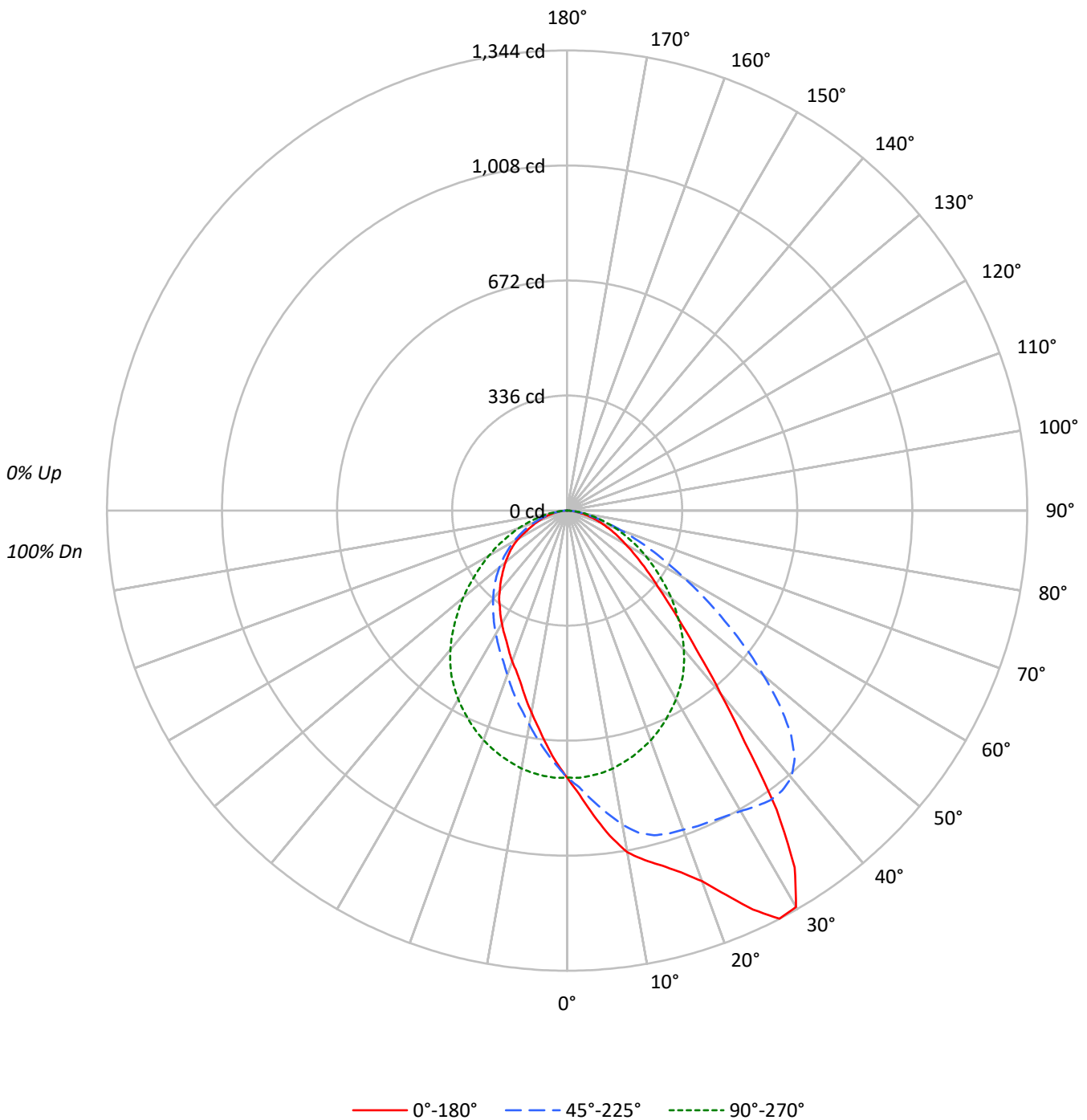
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2020.4 lumens  
Efficiency: N/A  
Efficacy: 107.5 lumens/watt  
Spacing Criteria (0/90/45): 1.4 / 1.21 / 1.48  
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 (A<sub>in</sub>): 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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73					73			
3	92	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63					63			
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55					55			
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48					48			
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	49	44	42					42			
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37					37			
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34					34			
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30					30			
10	55	42	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28					28			

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

	0°	45°	90°	135°	180°
0°	5542	5542	5542	5542	5542
5°	6377	6061	5550	5043	4901
10°	7314	6723	5522	4584	4325
15°	7900	7224	5465	4209	3844
20°	8712	7501	5400	3864	3550
25°	10082	7845	5312	3612	3294
30°	10971	8318	5220	3412	3126
35°	9254	8965	5113	3255	2972
40°	6463	9451	4921	3118	2839
45°	4794	9298	4662	2989	2709
50°	3822	8286	4393	2849	2598
55°	3245	6958	4058	2705	2499
60°	2803	5638	3758	2539	2338
65°	2497	4500	3434	2353	2013
70°	2194	3452	3146	2136	1837
75°	1898	2576	2724	1898	1722
80°	1441	1846	2292	1690	1441
85°	1199	1305	1802	1435	1354

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 9298 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.8	3.7
10°-20°	219.2	10.9
20°-30°	347.6	17.2
30°-40°	420.1	20.8
40°-50°	374.0	18.5
50°-60°	286.8	14.2
60°-70°	186.3	9.2
70°-80°	90.4	4.5
80°-90°	21.3	1.1
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°	641.6	31.8
0°-40°	1061.7	52.5
0°-60°	1722.5	85.3
0°-90°	2020.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2020.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	780	780	780	780	780	
5°	894	850	778	707	687	89
15°	1074	982	743	572	522	307
25°	1286	1000	677	461	420	592
35°	1067	1033	589	375	342	647
45°	477	925	464	297	270	378
55°	262	562	328	218	202	237
65°	148	268	204	140	120	148
75°	69	94	99	69	63	74
85°	15	16	22	18	17	17
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°	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8
2.5°	830.4	829.7	831.0	827.5	827.8	822.4	822.4	818.2	812.8	808.6	806.7
5°	893.8	894.4	893.1	888.3	885.1	880.3	874.9	865.3	857.3	849.6	843.5
7.5°	958.4	959.1	954.9	953.9	945.6	940.5	928.3	915.9	905.0	890.6	880.3
10°	1013.5	1013.2	1008.7	1005.2	998.1	989.2	977.3	962.0	947.5	931.5	916.2
12.5°	1045.5	1044.5	1043.9	1039.4	1033.0	1025.3	1015.7	1000.7	982.1	964.2	945.6
15°	1073.7	1071.4	1067.3	1061.8	1052.5	1043.3	1032.1	1018.6	1001.6	981.8	965.2
17.5°	1107.6	1107.9	1101.5	1095.8	1083.6	1068.2	1051.6	1031.1	1009.3	989.2	972.5
20°	1151.8	1150.8	1144.4	1129.7	1115.3	1094.8	1075.0	1048.4	1020.2	991.7	969.6
22.5°	1215.2	1212.3	1205.6	1185.1	1160.7	1132.9	1099.9	1066.0	1030.5	997.2	966.4
25°	1285.6	1283.7	1270.5	1248.1	1216.8	1176.1	1136.4	1091.9	1042.9	1000.4	965.2
27.5°	1343.8	1340.0	1328.2	1307.0	1276.3	1232.4	1177.7	1120.1	1061.8	1005.8	957.5
30°	1336.8	1341.6	1340.3	1331.7	1309.9	1271.5	1221.9	1155.0	1082.3	1013.5	953.0
32.5°	1236.3	1240.5	1254.9	1278.2	1285.3	1275.7	1241.7	1181.2	1105.4	1024.7	949.5
35°	1066.6	1072.4	1094.2	1128.4	1173.2	1210.7	1218.4	1185.1	1117.5	1033.3	945.9
37.5°	850.9	888.3	903.0	937.9	1008.4	1076.6	1135.8	1149.2	1112.7	1031.4	941.8
40°	696.6	704.3	736.9	777.6	834.5	906.3	1000.7	1068.9	1071.1	1018.6	928.3
42.5°	571.1	581.3	601.2	631.6	678.3	750.0	848.3	943.7	995.2	983.4	910.7
45°	477.0	484.3	500.7	525.6	563.1	622.3	706.2	810.2	892.8	925.1	876.5
47.5°	403.3	407.2	422.2	442.4	471.2	516.0	584.2	678.3	776.6	842.2	829.4
50°	345.7	350.2	361.1	375.5	398.9	435.4	487.2	562.4	664.6	749.4	766.4
52.5°	300.9	304.4	310.2	323.6	341.9	367.8	407.2	473.5	562.8	654.3	699.1
55°	261.9	264.4	269.9	277.5	292.9	313.1	349.2	396.3	470.6	561.5	619.1
57.5°	228.6	229.8	233.0	240.7	251.9	267.0	294.5	337.4	391.2	476.7	540.0
60°	197.2	198.5	203.0	207.8	216.1	229.5	250.0	277.9	329.1	396.6	461.0
62.5°	172.2	172.9	174.1	178.9	186.0	195.6	210.6	232.1	270.2	327.5	387.3
65°	148.5	148.9	149.5	153.3	157.8	165.5	176.1	192.1	222.8	267.6	321.4
67.5°	124.8	125.5	127.7	129.0	134.4	138.3	145.0	157.8	181.5	213.5	257.1
70°	105.6	105.3	107.6	109.2	110.8	115.6	119.7	129.6	143.1	166.1	201.0
72.5°	87.7	86.8	87.4	87.7	90.0	92.8	97.0	102.1	111.7	125.8	150.5
75°	69.1	69.5	69.5	70.1	71.7	73.0	74.3	77.5	83.2	93.8	108.2
77.5°	51.9	51.2	52.8	52.8	54.1	55.7	56.7	57.9	60.2	65.0	73.6
80°	35.2	35.2	35.5	36.5	36.2	36.8	38.4	39.7	42.6	45.1	47.7
82.5°	25.0	24.6	25.0	25.0	25.0	25.6	25.9	25.9	26.6	27.5	29.1
85°	14.7	14.7	15.0	15.0	15.4	15.4	15.7	15.7	15.7	16.0	16.3
87.5°	7.0	6.7	6.4	6.4	6.7	7.4	7.0	6.7	6.7	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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8
2.5°	806.7	804.5	800.3	796.5	791.6	787.5	784.6	781.1	776.6	771.2	766.7
5°	836.8	829.7	820.5	812.5	802.2	794.2	785.9	777.9	769.9	759.6	750.7
7.5°	870.1	856.3	843.5	826.9	811.8	798.7	785.9	772.8	760.3	746.2	733.1
10°	900.2	882.6	863.0	840.6	820.1	800.6	782.7	765.1	746.5	730.2	712.6
12.5°	928.3	904.3	881.3	851.5	825.9	800.9	776.9	753.9	733.7	711.3	692.1
15°	943.1	920.7	895.7	861.1	826.9	798.1	771.2	742.7	718.0	694.3	673.2
17.5°	951.7	928.0	899.2	865.6	828.8	792.9	759.0	728.6	700.4	673.2	649.8
20°	947.9	925.1	895.4	863.7	823.7	785.9	748.4	713.9	681.5	652.4	627.1
22.5°	938.6	914.9	886.4	852.5	815.0	774.4	733.7	696.3	662.0	631.6	603.4
25°	929.3	897.3	867.8	835.2	799.0	759.3	718.0	677.4	641.2	610.5	580.4
27.5°	920.3	881.6	845.1	813.7	775.0	739.1	698.8	656.9	619.1	588.1	557.3
30°	907.2	862.4	821.1	784.3	748.1	714.5	676.7	636.1	597.0	564.7	533.3
32.5°	890.9	842.5	796.1	752.3	717.7	684.4	651.1	612.7	574.9	541.3	509.3
35°	877.8	816.9	767.6	722.5	683.8	651.4	620.7	589.3	551.2	516.7	485.6
37.5°	859.5	792.6	736.9	687.6	647.3	615.3	590.6	560.8	525.3	491.7	462.9
40°	843.2	765.7	703.3	654.6	611.7	577.5	554.8	530.4	498.7	467.7	438.9
42.5°	821.4	741.1	669.4	618.1	574.9	542.3	519.2	498.7	473.5	444.6	413.3
45°	791.6	707.8	634.5	580.1	536.5	504.2	482.7	463.8	443.7	416.8	389.9
47.5°	756.1	676.1	598.9	539.1	497.1	466.7	445.6	429.9	415.2	391.8	364.6
50°	711.6	635.1	560.2	502.6	457.1	428.6	409.1	397.3	384.1	363.3	341.6
52.5°	659.1	592.9	519.9	460.6	418.4	392.1	373.6	361.7	351.5	335.5	315.0
55°	603.4	543.6	476.3	422.9	383.5	356.6	338.7	327.5	321.1	306.7	290.3
57.5°	540.4	494.3	433.4	381.3	345.7	318.8	305.4	295.5	288.1	277.5	265.4
60°	473.8	443.7	390.5	341.6	309.6	284.3	272.4	264.4	257.7	249.1	240.1
62.5°	406.2	386.4	341.9	301.5	272.7	252.6	241.7	234.6	226.6	221.5	212.9
65°	347.3	327.8	295.8	262.8	235.6	218.6	210.6	204.2	199.4	193.0	186.9
67.5°	282.0	273.1	249.4	224.7	204.9	188.5	181.5	176.4	170.9	167.1	162.6
70°	222.8	219.0	203.3	188.2	170.0	159.7	153.3	151.4	144.4	140.5	137.7
72.5°	170.3	169.0	161.7	152.4	140.9	132.2	126.4	124.2	120.4	117.5	115.9
75°	123.9	124.5	122.9	116.2	111.4	105.6	100.5	99.2	96.0	93.5	91.9
77.5°	84.5	87.7	87.1	86.8	84.5	80.3	78.1	77.1	73.6	72.7	72.3
80°	53.8	57.3	60.5	60.2	59.5	58.6	57.0	56.0	54.4	53.5	52.8
82.5°	31.4	34.6	37.1	39.4	39.4	38.4	37.5	37.1	37.1	36.5	36.5
85°	17.0	17.6	18.6	20.8	22.4	22.7	22.4	22.1	21.1	21.4	21.8
87.5°	7.4	7.4	7.7	7.7	7.4	9.0	9.9	10.2	9.6	9.0	8.3
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8	779.8
2.5°	763.5	759.0	755.8	749.4	744.9	743.0	739.5	738.5	742.0	739.5	739.1
5°	744.0	734.7	727.3	719.9	711.9	706.8	699.1	697.9	695.9	693.1	692.4
7.5°	721.2	709.7	701.1	688.9	679.0	671.0	661.4	657.5	655.6	652.1	646.3
10°	698.2	683.8	671.0	658.8	645.7	635.1	625.5	618.1	613.3	608.9	606.9
12.5°	675.4	660.7	643.4	628.1	613.0	600.9	590.0	585.8	580.4	574.9	569.8
15°	651.8	632.2	614.3	597.3	584.9	572.0	561.8	554.8	546.8	544.5	535.9
17.5°	626.5	608.2	587.1	568.8	554.8	541.3	530.1	521.8	515.7	507.1	502.9
20°	603.1	580.4	559.9	543.6	527.6	510.9	499.4	492.7	486.9	480.2	477.0
22.5°	578.1	556.0	534.9	515.1	498.7	482.4	475.1	468.0	461.3	455.2	450.7
25°	553.8	531.4	509.3	489.5	472.5	460.6	451.0	443.0	439.5	433.4	429.0
27.5°	529.5	505.8	483.4	462.6	449.4	437.6	429.9	423.5	416.8	411.3	407.2
30°	506.1	481.8	456.8	441.1	427.0	415.8	407.2	401.1	396.3	391.5	388.6
32.5°	482.7	457.4	436.0	418.7	405.6	396.3	387.3	381.6	376.5	371.0	367.5
35°	457.4	431.8	413.9	397.3	384.1	375.2	369.1	360.8	356.6	352.8	349.2
37.5°	434.7	410.4	390.5	376.1	364.0	355.3	347.3	343.2	337.7	334.5	331.6
40°	409.1	387.3	369.7	354.4	346.0	336.1	328.8	323.0	319.2	314.7	311.5
42.5°	386.1	366.2	349.2	335.8	324.9	316.9	309.9	304.1	299.0	296.1	293.5
45°	364.6	344.4	327.8	315.0	305.4	297.4	290.0	287.1	280.7	276.9	275.6
47.5°	342.2	324.0	307.6	295.8	285.9	278.5	271.5	265.1	261.9	258.0	256.1
50°	319.5	302.2	287.1	275.6	266.0	257.7	251.3	247.5	242.6	239.1	236.6
52.5°	296.7	281.1	266.0	255.1	247.1	238.8	231.4	227.6	223.1	221.2	219.6
55°	275.3	258.3	245.5	234.6	226.0	218.3	211.6	207.8	204.9	202.6	202.0
57.5°	250.7	236.9	224.7	215.1	205.8	198.5	192.4	188.9	186.3	186.0	183.7
60°	226.6	214.5	203.6	193.0	185.3	178.6	173.5	169.3	166.8	166.5	165.8
62.5°	202.6	191.1	181.2	172.2	165.5	159.1	154.3	149.5	148.2	146.3	144.7
65°	178.9	168.4	160.1	152.7	145.3	139.9	135.1	132.2	128.7	126.8	123.2
67.5°	155.6	146.9	138.9	132.8	126.8	121.3	117.2	113.0	110.4	108.8	106.0
70°	132.5	126.1	118.1	111.4	106.9	102.8	99.6	94.8	93.2	91.9	90.6
72.5°	110.8	105.3	98.9	93.8	89.3	85.5	81.6	80.0	78.4	77.1	76.5
75°	90.6	85.2	79.4	75.5	72.3	69.1	67.2	65.6	65.0	64.7	63.4
77.5°	70.4	67.2	62.4	58.9	56.7	55.4	53.5	52.8	53.1	51.5	51.2
80°	50.9	49.3	45.5	44.2	42.6	41.3	40.3	38.7	37.1	36.5	35.5
82.5°	34.6	33.0	32.0	29.8	28.5	27.9	26.9	26.6	27.2	26.2	25.9
85°	20.2	18.6	17.9	17.6	17.0	17.6	17.3	17.0	16.6	16.3	16.6
87.5°	8.0	8.0	7.7	8.3	7.4	7.7	7.7	7.4	7.4	7.4	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



TEST NUMBER: P242934

CATALOG NUMBER: S125RDRP-S610D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	779.8	779.8	779.8	779.8
2.5°	738.8	735.3	734.3	735.6
5°	689.2	686.0	687.6	687.0
7.5°	647.3	643.1	638.3	639.6
10°	602.8	599.6	597.7	599.3
12.5°	565.3	563.7	562.1	560.8
15°	532.0	528.2	526.6	522.4
17.5°	500.0	498.7	494.6	491.7
20°	472.2	470.9	466.7	469.3
22.5°	449.1	445.9	445.3	443.7
25°	427.7	423.5	421.9	420.0
27.5°	405.9	403.7	401.4	400.8
30°	384.8	382.5	380.9	380.9
32.5°	365.9	364.3	362.7	362.4
35°	347.6	345.1	344.4	342.5
37.5°	328.4	326.2	326.2	326.5
40°	310.2	308.6	308.3	306.0
42.5°	290.7	290.0	288.7	288.1
45°	273.4	271.1	271.1	269.5
47.5°	255.1	253.2	253.5	251.6
50°	236.9	235.9	235.6	235.0
52.5°	218.6	218.3	219.9	218.3
55°	202.6	201.7	203.6	201.7
57.5°	183.7	183.1	185.0	183.7
60°	165.2	163.3	164.2	164.5
62.5°	143.1	142.1	142.8	140.9
65°	122.6	121.6	120.4	119.7
67.5°	106.6	103.7	103.7	104.4
70°	88.7	88.7	88.4	88.4
72.5°	76.2	75.9	75.2	74.9
75°	63.4	63.7	63.1	62.7
77.5°	49.6	48.0	48.7	48.0
80°	35.5	35.2	36.2	35.2
82.5°	26.2	25.9	26.2	25.6
85°	17.0	16.6	16.3	16.6
87.5°	7.4	7.0	7.0	7.0
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242934  
 CATALOG NUMBER: S125RDRP-S610D940-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	15.57	17.11	15.94	17.42	17.74	16.55	18.09	16.92	18.40	18.72
	3H	16.70	18.08	17.08	18.41	18.77	18.03	19.41	18.41	19.73	20.10
	4H	17.09	18.38	17.49	18.73	19.10	18.54	19.83	18.94	20.18	20.56
	6H	17.32	18.51	17.73	18.88	19.27	18.89	20.08	19.30	20.45	20.84
	8H	17.37	18.51	17.80	18.90	19.30	18.99	20.12	19.42	20.51	20.91
	12H	17.41	18.49	17.84	18.87	19.30	19.04	20.13	19.47	20.51	20.94
4H	2H	17.16	18.45	17.56	18.80	19.18	17.40	18.69	17.80	19.04	19.42
	3H	18.23	19.30	18.64	19.70	20.10	19.06	20.13	19.47	20.53	20.93
	4H	18.61	19.58	19.05	19.99	20.43	19.65	20.61	20.08	21.03	21.46
	6H	18.87	19.71	19.33	20.15	20.61	20.08	20.91	20.53	21.36	21.81
	8H	18.93	19.71	19.39	20.16	20.62	20.20	20.98	20.66	21.42	21.89
	12H	18.97	19.67	19.46	20.15	20.62	20.28	20.98	20.76	21.46	21.93
8H	4H	18.99	19.77	19.45	20.21	20.68	19.80	20.58	20.26	21.02	21.49
	6H	19.29	19.94	19.79	20.43	20.91	20.31	20.96	20.81	21.45	21.93
	8H	19.38	19.96	19.90	20.47	20.96	20.49	21.07	21.00	21.58	22.06
	12H	19.46	19.98	19.97	20.47	21.03	20.62	21.14	21.13	21.63	22.19
12H	4H	19.01	19.71	19.49	20.19	20.66	19.79	20.48	20.27	20.96	21.43
	6H	19.33	19.91	19.84	20.42	20.90	20.30	20.88	20.82	21.39	21.88
	8H	19.46	19.97	19.97	20.46	21.03	20.52	21.03	21.03	21.52	22.09