

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: P242732

Luminaire Tested: S124RDRP-S575D927-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242732  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-S575D927-X4F0-XX-UDD-A-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

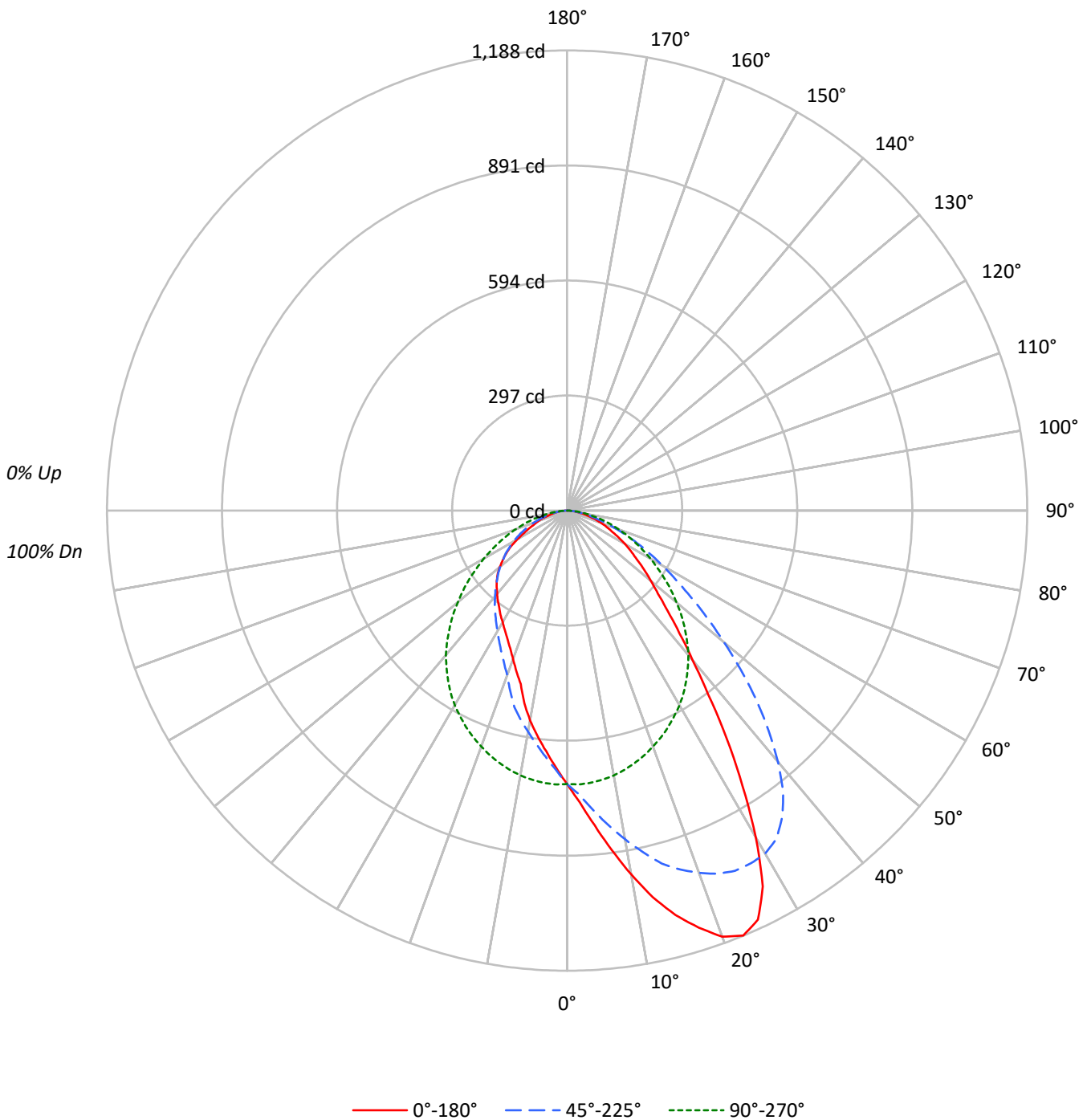
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1784.4 lumens  
Efficiency: N/A  
Efficacy: 94.9 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39  
Luminous Opening: Rectangular (W 3.88' x L: 0.31' 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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CATALOG NUMBER: S124RDRP-S575D927-X4F0-XX-UDD-A-W

### Luminous Intensity Polar Plot



TEST NUMBER: P242732

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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	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	92	86	81	88	83	79	85	81	77	82	79	76	74				74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63				63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55				55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48				48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43				43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38				38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34				34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31				31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28				28

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

	0°	45°	90°	135°	180°
0°	6275	6275	6275	6275	6275
5°	7278	6928	6293	5695	5563
10°	8610	7778	6266	5234	4964
15°	9945	8684	6208	4837	4266
20°	11073	9416	6129	4278	3858
25°	11431	10064	6050	3942	3582
30°	10006	10497	5955	3693	3416
35°	7789	10502	5814	3506	3315
40°	5841	9825	5653	3356	3261
45°	4612	8670	5395	3228	3232
50°	3894	7296	5097	3118	3139
55°	3394	6047	4769	3002	2971
60°	3054	5061	4428	2832	2629
65°	2692	4217	4061	2638	2261
70°	2425	3371	3680	2381	2040
75°	2033	2617	3263	2092	1738
80°	1720	1981	2780	1730	1633
85°	1448	1571	2172	1540	1448

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 55°  
 Vertical Angle: 45°  
 Luminance: 9260 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.4	3.8
10°-20°	206.4	11.6
20°-30°	323.3	18.1
30°-40°	359.1	20.1
40°-50°	318.2	17.8
50°-60°	248.0	13.9
60°-70°	162.2	9.1
70°-80°	79.6	4.5
80°-90°	19.4	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
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0°-30°	598.1	33.5
0°-40°	957.1	53.6
0°-60°	1523.3	85.4
0°-90°	1784.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1784.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	706	706	706	706	706	
5°	816	776	705	638	623	82
15°	1081	944	675	526	464	307
25°	1166	1026	617	402	365	520
35°	718	968	536	323	306	449
45°	367	690	429	257	257	289
55°	219	390	308	194	192	199
65°	128	200	193	125	108	129
75°	59	76	95	61	51	65
85°	14	15	21	15	14	16
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°	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9
2.5°	754.2	756.8	754.2	754.0	751.1	750.3	749.1	745.4	738.6	734.6	735.5
5°	815.7	822.8	818.8	818.2	812.0	805.7	801.7	792.6	783.0	776.4	771.0
7.5°	883.9	888.2	885.4	882.2	871.4	868.0	858.6	847.8	831.6	819.4	808.3
10°	953.9	957.3	956.2	948.8	941.4	926.3	917.8	901.0	879.1	861.7	845.5
12.5°	1022.7	1026.4	1014.2	1016.5	1000.8	989.7	974.9	952.8	926.6	903.0	881.7
15°	1080.7	1076.2	1076.2	1070.5	1054.9	1038.4	1024.4	1002.2	970.4	943.7	915.5
17.5°	1128.5	1130.5	1128.2	1113.7	1102.4	1085.6	1060.5	1035.2	1007.6	971.8	943.9
20°	1170.6	1170.6	1168.1	1158.9	1143.0	1124.8	1097.2	1069.1	1031.5	995.4	963.0
22.5°	1187.7	1188.8	1185.7	1178.6	1164.6	1147.0	1124.5	1095.8	1056.8	1015.0	972.9
25°	1165.5	1170.9	1171.5	1169.5	1165.2	1154.4	1134.2	1104.9	1070.2	1026.1	982.9
27.5°	1093.8	1100.9	1103.8	1110.0	1121.7	1126.0	1123.4	1103.8	1070.2	1026.7	983.8
30°	974.9	980.6	999.1	1023.3	1042.1	1059.1	1073.9	1077.9	1060.8	1022.7	976.9
32.5°	843.0	851.2	869.7	896.2	930.6	962.4	1000.3	1020.4	1024.1	1005.1	963.6
35°	717.8	723.5	740.6	767.9	805.4	848.4	901.0	941.9	969.8	967.8	941.9
37.5°	597.8	605.8	623.1	645.6	682.6	737.5	787.2	842.1	892.2	916.6	903.6
40°	503.4	503.7	520.5	543.8	577.9	624.3	679.7	742.3	799.7	846.7	855.8
42.5°	428.9	428.9	438.6	464.1	486.3	529.3	581.6	643.6	713.3	769.3	797.2
45°	366.9	369.4	378.5	393.6	413.0	449.9	492.3	550.0	625.4	689.7	729.8
47.5°	318.0	322.5	327.9	341.6	357.5	383.4	419.5	473.5	536.1	607.5	662.9
50°	281.6	282.1	289.5	296.3	309.7	329.3	360.1	403.3	459.6	527.6	591.0
52.5°	250.3	250.0	253.7	262.8	273.0	287.2	310.6	349.0	397.3	456.5	522.5
55°	219.0	220.4	223.8	230.7	238.9	249.7	269.3	298.9	338.2	390.2	449.6
57.5°	195.1	196.0	199.1	201.6	209.6	217.6	233.5	254.8	289.2	332.8	391.1
60°	171.8	172.1	172.9	177.2	183.2	190.6	200.5	217.9	245.7	284.7	328.5
62.5°	149.0	149.6	151.0	153.9	158.1	162.7	173.2	186.3	208.2	240.0	278.4
65°	128.0	128.3	130.3	131.4	135.1	139.6	147.3	156.7	172.6	200.5	230.4
67.5°	110.3	110.3	110.3	112.1	114.9	118.0	123.1	131.1	143.9	161.8	189.7
70°	93.3	93.3	93.9	94.7	96.1	98.7	101.2	106.9	115.8	129.7	149.9
72.5°	77.4	77.6	78.2	78.2	78.8	80.8	82.5	85.6	91.6	101.2	116.6
75°	59.2	60.0	61.4	62.6	64.0	63.7	65.7	68.0	70.0	76.2	85.6
77.5°	46.6	46.1	46.1	47.2	47.5	47.8	49.2	51.2	52.9	56.3	59.7
80°	33.6	33.6	34.4	34.7	34.4	34.7	36.1	37.0	37.5	38.7	41.8
82.5°	23.3	23.9	23.3	23.6	23.9	24.2	25.3	25.3	25.9	26.2	27.0
85°	14.2	14.5	14.8	14.2	14.2	14.2	14.8	15.1	15.6	15.4	15.9
87.5°	6.3	6.0	6.3	6.3	6.5	6.3	6.5	7.1	6.5	6.8	6.8
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°	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9
2.5°	732.6	728.6	726.7	722.1	716.7	713.9	711.3	707.6	702.8	697.6	693.9
5°	764.2	757.4	748.8	738.6	729.5	720.7	713.0	705.3	696.5	687.4	678.3
7.5°	795.5	783.3	770.2	754.5	739.5	725.5	713.0	700.8	686.8	674.3	662.7
10°	828.5	810.3	790.1	768.7	747.4	728.9	710.7	694.2	676.0	659.8	646.2
12.5°	855.2	833.0	807.7	779.8	753.1	729.8	708.2	685.4	664.1	646.2	626.8
15°	885.4	856.1	823.4	791.5	758.2	727.8	699.6	674.6	651.0	626.3	608.9
17.5°	906.1	872.3	833.6	796.6	758.5	723.2	691.4	662.4	635.4	610.6	590.1
20°	924.3	885.9	841.8	798.3	754.2	715.8	680.9	647.9	619.7	592.4	571.1
22.5°	934.6	891.0	841.8	795.8	749.7	707.3	668.1	633.4	602.1	574.8	550.6
25°	935.1	889.6	840.4	788.1	738.0	693.9	654.1	616.9	582.7	555.4	530.4
27.5°	932.8	880.2	830.7	777.6	726.1	679.2	637.9	598.4	564.5	535.5	509.9
30°	926.0	868.6	814.5	758.8	706.5	661.8	617.7	580.2	544.6	514.2	488.3
32.5°	911.2	854.4	795.2	737.7	684.6	638.2	597.0	559.1	524.4	493.2	465.3
35°	890.8	833.0	769.9	711.3	659.3	611.5	572.2	535.8	502.5	469.3	440.3
37.5°	867.2	806.9	744.6	680.3	628.5	583.0	546.3	511.4	478.9	448.5	416.4
40°	830.7	777.0	712.1	648.4	595.0	551.5	518.2	487.2	454.5	424.3	392.2
42.5°	786.7	742.9	677.2	613.2	560.6	519.0	488.6	458.5	429.5	400.4	366.6
45°	736.6	701.9	640.5	579.0	525.9	484.3	455.9	429.2	403.0	375.1	343.6
47.5°	680.9	655.3	601.8	537.5	487.8	449.6	422.3	400.2	377.1	349.0	320.5
50°	622.3	607.2	556.0	498.6	451.6	417.2	389.1	368.6	350.1	323.4	298.6
52.5°	559.7	553.5	512.2	457.9	413.0	379.4	356.4	338.4	319.7	298.6	275.9
55°	496.0	500.3	463.6	416.1	373.4	345.0	323.1	307.7	291.8	273.0	255.1
57.5°	429.7	445.9	418.6	375.7	334.5	307.7	290.9	277.3	263.9	248.0	231.8
60°	371.4	384.5	370.6	333.9	298.9	274.5	259.1	249.1	235.8	221.6	209.9
62.5°	314.6	328.8	321.9	294.1	262.2	242.0	228.9	219.8	210.7	198.8	186.6
65°	268.8	277.9	273.9	253.4	230.4	212.5	199.9	193.1	184.0	174.9	164.1
67.5°	215.0	232.9	230.1	218.7	196.5	182.3	173.5	167.2	158.7	151.9	144.2
70°	169.2	185.4	185.1	176.3	165.5	152.4	146.8	141.6	134.2	127.7	121.7
72.5°	130.8	145.3	148.2	141.9	135.4	126.3	120.9	117.7	110.6	106.7	102.1
75°	97.0	107.8	110.6	110.6	107.2	102.1	97.3	95.0	89.9	85.9	83.0
77.5°	68.3	75.7	79.9	80.8	81.1	79.1	74.5	72.8	68.8	67.4	64.3
80°	44.9	49.5	54.6	56.3	57.7	57.2	55.5	54.3	50.6	49.2	48.1
82.5°	27.6	29.6	33.6	37.8	37.0	39.0	37.5	36.7	34.1	33.8	32.7
85°	16.2	16.5	17.1	19.6	21.0	21.6	21.9	21.3	20.5	20.5	18.5
87.5°	6.8	6.5	7.1	7.1	7.4	8.5	9.4	9.7	8.8	8.0	7.1
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°	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9	705.9
2.5°	690.0	687.1	683.4	679.2	674.0	669.5	667.5	669.2	670.1	667.8	667.5
5°	672.0	664.9	659.3	650.7	643.9	638.2	634.2	632.5	633.1	628.5	627.4
7.5°	652.1	644.5	635.1	625.4	616.3	608.3	604.1	602.1	597.2	595.3	592.1
10°	633.1	621.7	612.6	600.7	589.9	579.9	575.1	571.1	566.2	564.0	559.1
12.5°	613.5	599.8	589.6	577.1	566.0	553.5	548.9	540.7	532.4	527.0	520.5
15°	595.3	579.3	567.1	552.3	539.2	525.6	513.4	499.7	494.6	483.8	477.5
17.5°	573.6	557.1	543.5	524.4	504.8	488.3	474.7	460.5	452.8	445.4	442.2
20°	552.3	537.5	516.5	493.4	471.0	452.2	441.7	433.1	424.6	419.8	416.4
22.5°	532.1	512.2	486.9	461.6	439.1	425.5	416.9	408.1	401.6	397.0	392.2
25°	509.1	484.3	458.5	430.0	414.7	401.9	392.2	385.1	380.8	374.8	372.6
27.5°	486.6	456.8	427.5	408.1	392.2	380.0	371.1	366.0	360.3	356.4	353.2
30°	459.9	429.5	403.9	385.7	369.4	359.8	352.9	346.7	342.4	339.3	337.0
32.5°	433.4	403.0	382.5	362.6	350.7	341.3	333.9	329.6	326.5	322.2	321.1
35°	408.1	381.1	362.3	344.7	331.6	323.1	317.4	312.6	309.7	308.6	307.7
37.5°	383.4	360.9	340.1	325.9	313.7	307.2	299.8	297.5	295.5	292.9	294.1
40°	360.1	339.3	321.4	306.0	296.6	289.2	285.3	282.4	280.7	280.7	280.7
42.5°	339.9	319.7	302.3	289.0	279.6	273.6	269.0	266.8	266.5	266.2	267.9
45°	318.8	300.0	282.4	271.0	263.1	256.8	254.3	252.3	252.3	253.4	253.7
47.5°	297.8	280.1	265.9	252.8	245.4	241.5	239.2	238.0	238.0	239.5	240.6
50°	278.7	261.4	247.4	236.1	229.2	225.5	223.5	223.0	223.5	223.5	225.5
52.5°	258.0	242.9	229.2	220.1	212.2	208.8	207.9	207.0	207.3	208.5	209.0
55°	237.8	223.8	210.7	201.6	196.0	193.7	191.1	191.4	190.8	191.4	191.4
57.5°	217.3	205.1	192.3	184.9	180.0	176.6	173.8	174.6	173.8	173.8	173.5
60°	197.7	184.0	174.3	167.8	162.1	159.3	156.7	157.3	156.4	155.9	154.7
62.5°	176.3	165.5	156.4	150.2	145.9	142.5	139.9	139.1	136.8	134.5	131.7
65°	155.9	146.5	138.2	132.2	128.0	125.4	123.4	121.7	117.5	112.9	110.6
67.5°	135.7	128.8	120.9	115.8	112.3	108.9	105.2	102.1	97.8	95.0	93.6
70°	116.3	109.8	103.2	98.4	94.7	91.6	87.3	85.3	82.5	81.3	79.9
72.5°	97.8	91.9	85.9	81.6	77.6	75.4	72.2	70.2	69.4	69.1	67.7
75°	79.1	74.2	69.7	65.7	62.6	60.9	59.4	58.0	57.4	54.9	53.5
77.5°	60.9	57.4	54.6	51.5	49.5	48.3	45.2	43.2	42.1	40.7	40.4
80°	44.9	42.7	39.8	38.1	35.0	33.8	32.7	32.4	32.1	31.9	31.6
82.5°	31.0	28.7	25.9	25.0	24.7	24.2	23.6	23.3	23.0	23.3	23.3
85°	17.1	15.9	15.9	15.6	15.4	15.1	14.8	14.8	14.5	14.8	14.5
87.5°	7.1	6.8	6.8	6.3	6.5	6.5	6.3	6.3	6.5	6.0	6.0
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: P242732

CATALOG NUMBER: S124RDRP-S575D927-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	705.9	705.9	705.9	705.9
2.5°	665.8	666.4	664.4	663.8
5°	625.1	624.6	623.1	623.4
7.5°	589.9	587.9	589.3	587.0
10°	558.0	554.9	552.3	550.0
12.5°	514.5	511.9	508.2	509.7
15°	473.8	469.6	462.7	463.6
17.5°	437.4	438.0	434.0	435.1
20°	410.4	408.4	408.7	407.8
22.5°	391.6	389.1	386.5	384.5
25°	370.0	368.3	365.7	365.2
27.5°	351.0	350.7	349.5	348.1
30°	334.7	334.2	333.6	332.8
32.5°	320.2	320.0	319.4	319.7
35°	306.6	306.3	305.7	305.5
37.5°	293.8	294.6	294.1	294.1
40°	280.4	280.7	281.3	281.0
42.5°	269.3	269.3	270.2	269.0
45°	255.7	257.4	257.1	257.1
47.5°	241.2	243.2	243.5	243.5
50°	227.0	226.4	227.2	227.0
52.5°	209.6	209.9	209.6	209.3
55°	191.7	192.0	191.4	191.7
57.5°	172.6	171.5	172.3	171.8
60°	151.9	149.6	149.0	147.9
62.5°	128.6	127.1	124.9	126.3
65°	108.4	107.2	106.4	107.5
67.5°	92.1	91.6	91.6	91.0
70°	79.9	79.1	79.1	78.5
72.5°	67.4	66.6	66.8	66.6
75°	51.8	50.3	50.3	50.6
77.5°	40.4	40.1	40.7	39.8
80°	31.6	31.3	31.0	31.9
82.5°	22.8	22.8	22.8	23.9
85°	14.8	14.2	14.8	14.2
87.5°	6.5	6.3	6.0	6.3
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242732  
 CATALOG NUMBER: S124RDRP-S575D927-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	15.48	17.01	15.85	17.32	17.63	17.30	18.82	17.67	19.14	19.45
	3H	16.71	18.08	17.09	18.40	18.76	18.76	20.12	19.13	20.45	20.81
	4H	17.14	18.42	17.54	18.77	19.15	19.27	20.55	19.67	20.90	21.28
	6H	17.42	18.60	17.83	18.96	19.36	19.62	20.81	20.04	21.17	21.56
	8H	17.50	18.62	17.92	19.01	19.41	19.72	20.85	20.15	21.24	21.64
	12H	17.55	18.62	17.98	19.01	19.43	19.78	20.86	20.21	21.24	21.67
4H	2H	16.74	18.02	17.14	18.37	18.75	17.81	19.09	18.21	19.44	19.82
	3H	17.98	19.04	18.39	19.44	19.84	19.55	20.61	19.96	21.01	21.41
	4H	18.44	19.40	18.87	19.81	20.25	20.18	21.13	20.61	21.55	21.99
	6H	18.77	19.60	19.22	20.04	20.50	20.63	21.46	21.09	21.91	22.37
	8H	18.86	19.64	19.32	20.08	20.55	20.77	21.54	21.23	21.99	22.46
	12H	18.93	19.62	19.41	20.10	20.57	20.86	21.55	21.34	22.03	22.50
8H	4H	18.84	19.62	19.31	20.06	20.53	20.29	21.06	20.75	21.51	21.98
	6H	19.23	19.87	19.73	20.36	20.84	20.83	21.47	21.33	21.96	22.44
	8H	19.37	19.94	19.88	20.45	20.94	21.02	21.60	21.54	22.11	22.59
	12H	19.48	19.99	19.99	20.48	21.04	21.17	21.68	21.68	22.17	22.73
12H	4H	18.88	19.57	19.36	20.05	20.52	20.28	20.97	20.76	21.45	21.92
	6H	19.28	19.85	19.79	20.36	20.85	20.82	21.40	21.33	21.91	22.39
	8H	19.46	19.97	19.97	20.46	21.02	21.05	21.56	21.56	22.05	22.61