

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: P242401

Luminaire Tested: S122RDRP-S1005D835-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242401
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122RDRP-S1005D835-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

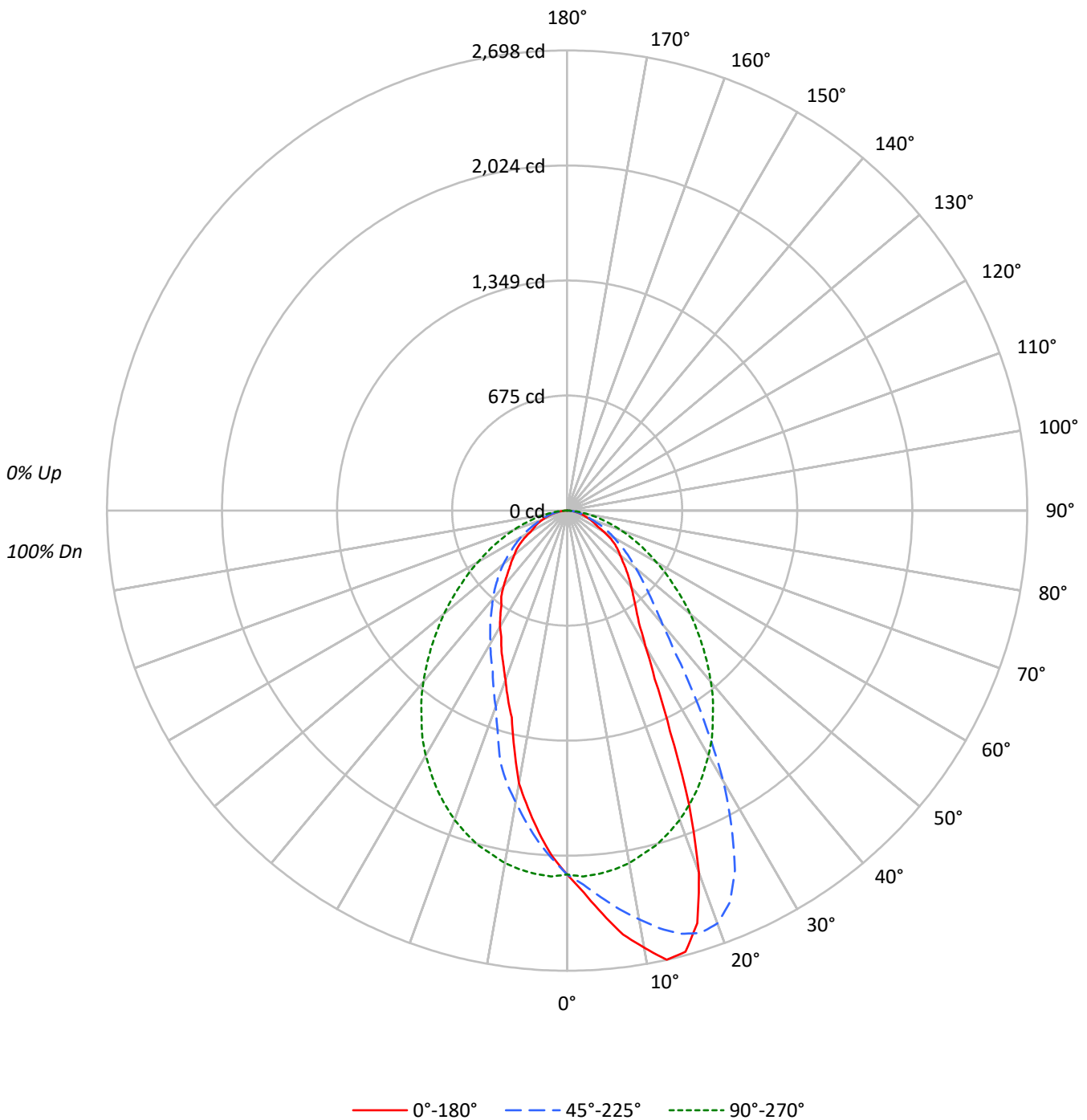
Lumens per Lamp: N/A
Luminaire Lumens: 3685.6 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

Input Watts (W): 41.1
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: P242401

CATALOG NUMBER: S122RDRP-S1005D835-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	39
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	40625	40625	40625	40625	40625
5°	45371	43501	40880	37252	36247
10°	50340	47058	40592	33569	31418
15°	52815	50652	39997	29944	24756
20°	45786	52216	39117	24801	21421
25°	30029	48921	37910	21712	19125
30°	20211	40276	36447	19771	17310
35°	16370	29415	34603	18233	15612
40°	14558	21615	32598	16824	14447
45°	13175	17967	30243	15591	12895
50°	11990	15569	27911	14405	11945
55°	11271	13782	25325	13018	11125
60°	9429	12000	22952	11943	9318
65°	7950	10686	20841	10623	9019
70°	7346	8504	18612	9367	8504
75°	6874	7691	16198	8839	7853
80°	6340	6987	13328	7722	6987
85°	5835	5988	10534	6163	6163

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 70°
 Vertical Angle: 45°
 Luminance: 44059 cd/sqm



TEST NUMBER: P242401

CATALOG NUMBER: S122RDRP-S1005D835-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.3	5.5
10°-20°	564.7	15.3
20°-30°	726.7	19.7
30°-40°	689.4	18.7
40°-50°	590.7	16.0
50°-60°	450.0	12.2
60°-70°	283.8	7.7
70°-80°	141.6	3.8
80°-90°	36.4	1.0
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°	1493.6	40.5
0°-40°	2183.0	59.2
0°-60°	3223.7	87.5
0°-90°	3685.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3685.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2133	2133	2133	2133	2133	
5°	2373	2275	2138	1948	1896	234
15°	2678	2569	2028	1518	1255	728
25°	1429	2328	1804	1033	910	675
35°	704	1265	1488	784	671	448
45°	489	667	1123	579	479	378
55°	339	415	763	392	335	299
65°	176	237	462	236	200	178
75°	93	104	220	120	107	99
85°	27	27	48	28	28	30
90°	0	0	0	0	0	



TEST NUMBER: P242401

CATALOG NUMBER: S122RDRP-S1005D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8
2.5°	2241.0	2243.2	2245.5	2240.3	2240.3	2235.8	2226.2	2218.8	2198.0	2195.1	2195.1
5°	2372.9	2371.5	2374.4	2364.8	2351.4	2348.5	2334.4	2315.9	2296.6	2275.1	2270.7
7.5°	2506.3	2497.4	2493.7	2498.2	2484.1	2464.8	2441.1	2418.9	2385.5	2358.1	2341.1
10°	2602.7	2627.1	2612.3	2586.4	2591.6	2556.7	2538.2	2506.3	2479.6	2433.0	2422.6
12.5°	2697.5	2703.5	2701.2	2689.4	2679.7	2658.2	2631.6	2604.9	2550.1	2509.3	2466.3
15°	2678.3	2692.3	2696.0	2691.6	2695.3	2693.8	2680.5	2657.5	2614.5	2568.6	2528.6
17.5°	2536.0	2552.3	2565.6	2577.5	2596.0	2632.3	2643.4	2647.9	2630.1	2597.5	2564.1
20°	2258.8	2242.5	2310.7	2345.5	2375.2	2449.3	2513.0	2537.5	2576.7	2576.0	2568.6
22.5°	1866.0	1874.9	1938.7	1981.6	2082.4	2156.5	2231.4	2340.3	2425.6	2488.5	2527.1
25°	1428.8	1457.0	1521.4	1577.8	1674.1	1811.9	1937.2	2082.4	2219.5	2327.7	2430.7
27.5°	1111.6	1115.3	1173.9	1230.9	1290.2	1409.5	1577.0	1751.2	1946.8	2087.6	2265.5
30°	918.9	914.5	936.0	967.8	1016.8	1104.2	1222.8	1393.2	1588.1	1831.2	2047.6
32.5°	782.6	784.1	798.9	820.4	858.9	910.8	982.7	1113.1	1294.7	1532.6	1795.6
35°	704.0	703.3	715.1	732.2	749.2	787.0	842.6	915.2	1042.0	1265.0	1524.4
37.5°	638.8	642.5	647.7	658.8	679.6	701.8	736.6	787.8	884.1	1022.7	1255.4
40°	585.5	586.9	595.1	604.0	615.1	631.4	658.8	698.1	764.1	869.3	1028.6
42.5°	536.5	538.0	543.2	551.4	559.5	575.8	597.3	629.9	680.3	756.6	881.1
45°	489.1	489.1	494.3	498.0	507.6	522.5	541.0	569.1	606.2	667.0	754.4
47.5°	443.2	443.2	446.9	453.5	460.2	472.1	491.3	515.0	541.7	591.4	669.2
50°	404.6	405.4	407.6	412.8	416.5	426.9	440.9	461.0	489.1	525.4	587.7
52.5°	373.5	372.8	375.7	377.2	379.4	386.1	395.7	412.8	437.2	467.6	516.5
55°	339.4	336.4	340.9	344.6	346.8	349.8	355.7	366.8	388.3	415.0	453.5
57.5°	299.4	297.9	300.1	303.8	310.5	317.9	321.6	329.0	340.2	360.9	401.7
60°	247.5	247.5	254.2	256.4	264.6	274.9	285.3	291.2	302.4	315.0	343.1
62.5°	201.6	202.3	204.5	206.8	210.5	223.8	239.4	254.2	264.6	276.4	292.7
65°	176.4	177.9	177.9	179.3	182.3	185.3	191.2	201.6	220.1	237.1	251.2
67.5°	154.1	154.1	154.9	156.4	157.1	160.8	163.0	168.2	171.9	191.2	210.5
70°	131.9	134.1	133.4	134.9	135.6	137.1	140.1	142.3	149.0	152.7	163.0
72.5°	111.2	112.6	112.6	113.4	115.6	115.6	117.8	120.1	123.8	126.7	131.2
75°	93.4	92.6	93.4	94.9	95.6	96.3	96.3	99.3	101.5	104.5	108.2
77.5°	75.6	76.3	76.3	76.3	76.3	77.8	77.8	79.3	81.5	83.0	85.2
80°	57.8	58.5	57.8	58.5	59.3	60.0	59.3	60.0	62.3	63.7	63.7
82.5°	41.5	41.5	42.2	42.2	42.2	42.2	43.7	43.7	45.2	44.5	45.2
85°	26.7	25.9	25.9	25.9	26.7	27.4	26.7	26.7	27.4	27.4	27.4
87.5°	11.9	12.6	12.6	12.6	12.6	12.6	12.6	13.3	12.6	13.3	12.6
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: P242401

CATALOG NUMBER: S122RDRP-S1005D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8
2.5°	2196.6	2190.6	2185.4	2172.1	2165.4	2150.6	2148.4	2147.6	2128.4	2109.9	2104.7
5°	2258.8	2247.0	2229.2	2208.4	2186.9	2164.7	2149.9	2138.0	2108.4	2080.2	2063.9
7.5°	2320.3	2298.8	2270.7	2235.1	2204.7	2169.1	2144.7	2122.4	2081.7	2044.6	2020.2
10°	2390.7	2349.2	2308.5	2254.4	2212.1	2170.6	2132.1	2098.7	2051.3	1997.9	1960.2
12.5°	2434.4	2387.8	2327.7	2275.1	2217.3	2161.7	2106.9	2061.7	2003.9	1948.3	1901.6
15°	2473.0	2424.1	2355.9	2280.3	2209.9	2141.0	2081.7	2028.3	1955.7	1889.8	1834.9
17.5°	2508.6	2441.1	2370.7	2283.3	2205.5	2121.7	2046.9	1980.2	1900.9	1823.1	1760.8
20°	2524.1	2457.4	2372.9	2285.5	2189.1	2086.1	2003.9	1929.8	1843.1	1756.4	1682.2
22.5°	2514.5	2466.3	2370.0	2261.0	2161.7	2052.8	1957.2	1868.3	1769.7	1680.8	1591.8
25°	2464.1	2446.3	2357.4	2243.2	2130.6	2005.4	1897.9	1803.8	1694.1	1599.2	1505.9
27.5°	2371.5	2397.4	2334.4	2210.6	2089.1	1954.2	1837.1	1731.2	1619.3	1513.3	1419.9
30°	2224.7	2312.9	2289.2	2176.5	2036.5	1904.6	1769.0	1657.1	1535.5	1425.8	1333.9
32.5°	2023.9	2184.0	2218.8	2129.1	1983.1	1834.9	1691.1	1580.0	1451.8	1334.7	1245.8
35°	1808.2	2026.1	2126.2	2066.1	1920.9	1764.5	1617.8	1488.1	1360.6	1246.5	1157.6
37.5°	1552.6	1843.1	1997.2	1990.5	1852.0	1692.6	1533.3	1405.1	1273.9	1161.3	1068.6
40°	1305.0	1626.7	1843.8	1892.0	1779.3	1603.7	1442.1	1311.0	1183.5	1073.8	963.4
42.5°	1082.7	1402.9	1682.2	1774.9	1691.1	1517.0	1354.7	1216.1	1093.1	990.8	877.4
45°	911.5	1191.7	1485.9	1635.6	1585.9	1424.4	1253.2	1122.7	1006.4	916.7	808.5
47.5°	789.2	993.0	1288.7	1484.4	1478.5	1325.0	1154.6	1029.4	919.7	836.7	744.8
50°	687.7	859.7	1100.5	1330.2	1349.5	1225.7	1065.7	941.9	841.1	752.9	682.5
52.5°	596.6	730.7	941.2	1159.0	1222.8	1119.8	965.6	853.7	756.6	677.3	619.5
55°	519.5	629.2	793.7	999.7	1082.7	1007.1	869.3	762.6	683.3	615.1	563.2
57.5°	452.1	538.0	675.1	847.8	941.9	890.8	772.9	684.8	614.4	550.6	509.1
60°	389.1	456.5	568.4	707.0	813.7	780.4	683.3	602.5	544.7	491.3	452.8
62.5°	329.8	385.4	477.3	583.2	678.8	669.9	595.1	530.6	481.7	434.3	403.1
65°	274.9	317.2	392.0	480.2	558.8	565.4	508.4	462.4	417.2	378.7	349.8
67.5°	227.5	256.4	312.7	390.5	450.6	471.3	432.8	395.7	358.7	327.6	301.6
70°	184.5	206.8	245.3	305.3	359.4	381.7	361.6	334.2	303.1	278.6	257.2
72.5°	140.8	162.3	188.2	228.3	272.7	297.2	293.5	275.7	252.0	232.7	212.7
75°	112.6	119.3	138.6	168.2	204.5	225.3	230.5	220.1	200.1	184.5	172.7
77.5°	87.4	91.9	102.3	120.1	145.3	163.8	171.9	170.4	155.6	145.3	134.1
80°	66.7	68.9	73.4	80.0	97.8	116.3	121.5	121.5	111.9	108.2	97.1
82.5°	46.7	48.2	50.4	53.4	59.3	74.8	80.8	82.3	77.1	71.9	63.7
85°	28.9	28.2	29.6	31.9	33.3	37.8	46.7	48.2	46.7	40.8	38.5
87.5°	12.6	13.3	13.3	12.6	13.3	14.1	17.8	21.5	18.5	16.3	14.8
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8	2132.8
2.5°	2095.0	2089.8	2080.2	2065.4	2056.5	2040.9	2030.6	2036.5	2038.0	2036.5	2035.0
5°	2046.1	2030.6	2009.1	1988.3	1969.0	1948.3	1936.4	1931.3	1920.9	1914.9	1912.0
7.5°	1990.5	1967.6	1937.2	1903.8	1872.7	1843.1	1829.7	1819.3	1800.1	1789.7	1780.1
10°	1926.8	1884.6	1854.2	1806.7	1777.8	1735.6	1706.7	1707.4	1678.5	1662.2	1650.4
12.5°	1856.4	1809.0	1753.4	1711.9	1668.9	1637.0	1600.7	1582.9	1551.8	1536.3	1499.2
15°	1777.1	1723.0	1669.7	1611.8	1571.1	1518.5	1468.1	1406.6	1356.9	1313.9	1302.1
17.5°	1692.6	1625.9	1573.3	1514.0	1450.3	1354.7	1292.4	1254.6	1225.0	1202.8	1185.0
20°	1605.2	1537.0	1479.9	1377.7	1283.5	1223.5	1180.5	1153.1	1122.0	1097.5	1084.2
22.5°	1513.3	1441.4	1358.4	1241.3	1173.1	1127.9	1090.9	1058.3	1039.7	1021.9	1010.1
25°	1427.3	1349.5	1221.3	1142.7	1083.5	1033.1	1006.4	987.1	964.9	938.9	927.1
27.5°	1337.6	1213.9	1116.8	1059.7	999.0	967.1	944.1	912.3	892.3	882.6	869.3
30°	1234.6	1110.9	1039.0	975.3	935.2	898.9	870.8	854.5	835.2	815.2	807.0
32.5°	1119.8	1027.1	959.0	908.6	867.8	838.2	817.4	788.5	775.9	765.5	746.3
35°	1028.6	953.8	890.8	847.8	809.3	784.1	758.1	742.6	717.4	707.0	700.3
37.5°	945.6	880.4	833.0	785.5	755.9	726.3	711.4	685.5	675.9	659.6	646.2
40°	877.4	813.7	768.5	731.4	697.4	676.6	656.6	636.6	620.3	613.6	596.6
42.5°	807.8	758.9	713.7	672.2	652.1	629.9	603.2	589.9	572.9	561.0	552.1
45°	744.8	698.8	660.3	627.0	601.8	578.8	562.5	538.0	528.4	506.9	498.0
47.5°	689.2	644.7	607.7	575.1	549.9	536.5	512.8	491.3	478.0	463.2	450.6
50°	629.2	593.6	558.0	529.9	507.6	486.1	461.7	452.1	428.3	421.7	415.0
52.5°	574.3	541.0	509.1	481.7	459.5	438.7	418.0	404.6	390.5	383.9	379.4
55°	523.9	491.3	460.2	435.8	413.5	392.0	378.7	363.1	355.7	350.5	344.6
57.5°	472.1	442.4	418.0	392.8	370.5	352.8	336.4	327.6	320.1	314.2	306.1
60°	423.2	395.0	373.5	350.5	327.6	313.5	301.6	290.5	281.6	271.2	268.3
62.5°	371.3	347.6	328.3	306.1	286.8	274.2	263.1	252.7	241.6	225.3	220.8
65°	324.6	305.3	284.6	266.0	248.3	235.7	219.4	207.5	203.1	201.6	200.8
67.5°	281.6	263.1	245.3	226.0	209.7	195.6	186.0	184.5	181.6	180.8	178.6
70°	238.6	221.6	203.8	186.0	170.4	168.2	165.3	162.3	158.6	157.1	155.6
72.5°	200.1	182.3	164.5	151.2	146.7	143.8	140.8	137.8	135.6	134.1	133.4
75°	159.3	143.0	131.2	126.0	122.3	120.1	115.6	113.4	111.9	109.7	108.9
77.5°	121.5	111.2	105.2	102.3	97.8	95.6	92.6	90.4	88.2	88.2	86.7
80°	87.4	83.0	79.3	74.8	73.4	70.4	69.7	67.4	68.2	66.0	66.0
82.5°	63.0	57.1	54.1	52.6	51.1	48.9	48.2	47.4	47.4	45.9	45.9
85°	34.8	33.3	31.9	30.4	30.4	28.2	28.9	28.2	28.2	26.7	25.9
87.5°	14.1	13.3	11.9	11.9	11.9	11.1	11.1	10.4	10.4	10.4	9.6
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: P242401

CATALOG NUMBER: S122RDRP-S1005D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2132.8	2132.8	2132.8	2132.8
2.5°	2026.9	2028.3	2026.1	2027.6
5°	1908.3	1899.4	1897.9	1895.7
7.5°	1768.2	1767.5	1763.0	1757.8
10°	1634.1	1630.4	1629.6	1624.4
12.5°	1477.0	1448.1	1445.1	1430.3
15°	1284.3	1279.8	1265.0	1255.4
17.5°	1176.8	1162.0	1156.8	1154.6
20°	1073.8	1060.5	1058.3	1056.8
22.5°	1002.7	988.6	981.9	976.7
25°	919.7	914.5	911.5	910.0
27.5°	854.5	841.1	839.6	835.9
30°	800.4	796.7	791.5	787.0
32.5°	736.6	733.7	729.2	727.7
35°	692.9	682.5	678.1	671.4
37.5°	644.7	638.8	631.4	634.4
40°	586.9	583.2	581.7	581.0
42.5°	541.0	529.1	524.7	524.7
45°	494.3	484.7	478.0	478.7
47.5°	443.9	444.6	440.2	441.7
50°	409.8	405.4	402.4	403.1
52.5°	377.2	373.5	371.3	375.0
55°	340.9	336.4	335.7	335.0
57.5°	301.6	299.4	295.7	293.5
60°	258.6	252.7	245.3	244.6
62.5°	219.4	219.4	219.4	219.4
65°	199.4	198.6	199.4	200.1
67.5°	178.6	177.1	175.6	176.4
70°	154.1	153.4	152.7	152.7
72.5°	130.4	130.4	129.7	128.9
75°	108.2	106.7	106.7	106.7
77.5°	86.7	86.0	85.2	84.5
80°	65.2	64.5	63.7	63.7
82.5°	45.9	45.2	45.2	44.5
85°	26.7	27.4	26.7	28.2
87.5°	9.6	8.9	9.6	8.9
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242401
 CATALOG NUMBER: S122RDRP-S1005D835-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	18.40	19.86	18.77	20.17	20.48	24.31	25.76	24.67	26.07	26.39
	3H	19.52	20.82	19.90	21.14	21.51	25.46	26.76	25.84	27.09	27.45
	4H	19.97	21.19	20.37	21.54	21.92	25.86	27.07	26.26	27.42	27.80
	6H	20.34	21.46	20.75	21.83	22.22	26.12	27.24	26.54	27.61	28.00
	8H	20.46	21.53	20.89	21.92	22.32	26.19	27.26	26.62	27.65	28.05
	12H	20.54	21.56	20.97	21.95	22.38	26.23	27.25	26.66	27.63	28.06
4H	2H	19.12	20.33	19.52	20.68	21.06	24.27	25.48	24.67	25.83	26.21
	3H	20.39	21.39	20.80	21.79	22.19	25.56	26.57	25.98	26.97	27.37
	4H	20.94	21.84	21.37	22.26	22.70	26.06	26.96	26.49	27.38	27.82
	6H	21.41	22.19	21.87	22.63	23.10	26.44	27.23	26.90	27.67	28.13
	8H	21.57	22.30	22.03	22.74	23.21	26.56	27.29	27.02	27.73	28.20
	12H	21.68	22.34	22.17	22.82	23.29	26.63	27.29	27.12	27.77	28.24
8H	4H	21.28	22.01	21.74	22.46	22.92	26.04	26.78	26.51	27.22	27.69
	6H	21.85	22.45	22.35	22.94	23.42	26.47	27.07	26.97	27.57	28.04
	8H	22.07	22.61	22.59	23.12	23.61	26.62	27.16	27.14	27.67	28.16
	12H	22.26	22.73	22.77	23.23	23.79	26.74	27.22	27.25	27.71	28.28
12H	4H	21.32	21.97	21.80	22.45	22.92	26.02	26.67	26.50	27.15	27.62
	6H	21.91	22.45	22.43	22.96	23.45	26.44	26.99	26.96	27.50	27.99
	8H	22.19	22.67	22.70	23.16	23.73	26.63	27.10	27.14	27.60	28.16