

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P832202

Luminaire Tested: S123RDIP-S560D1195U835-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832202
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D1195U835-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

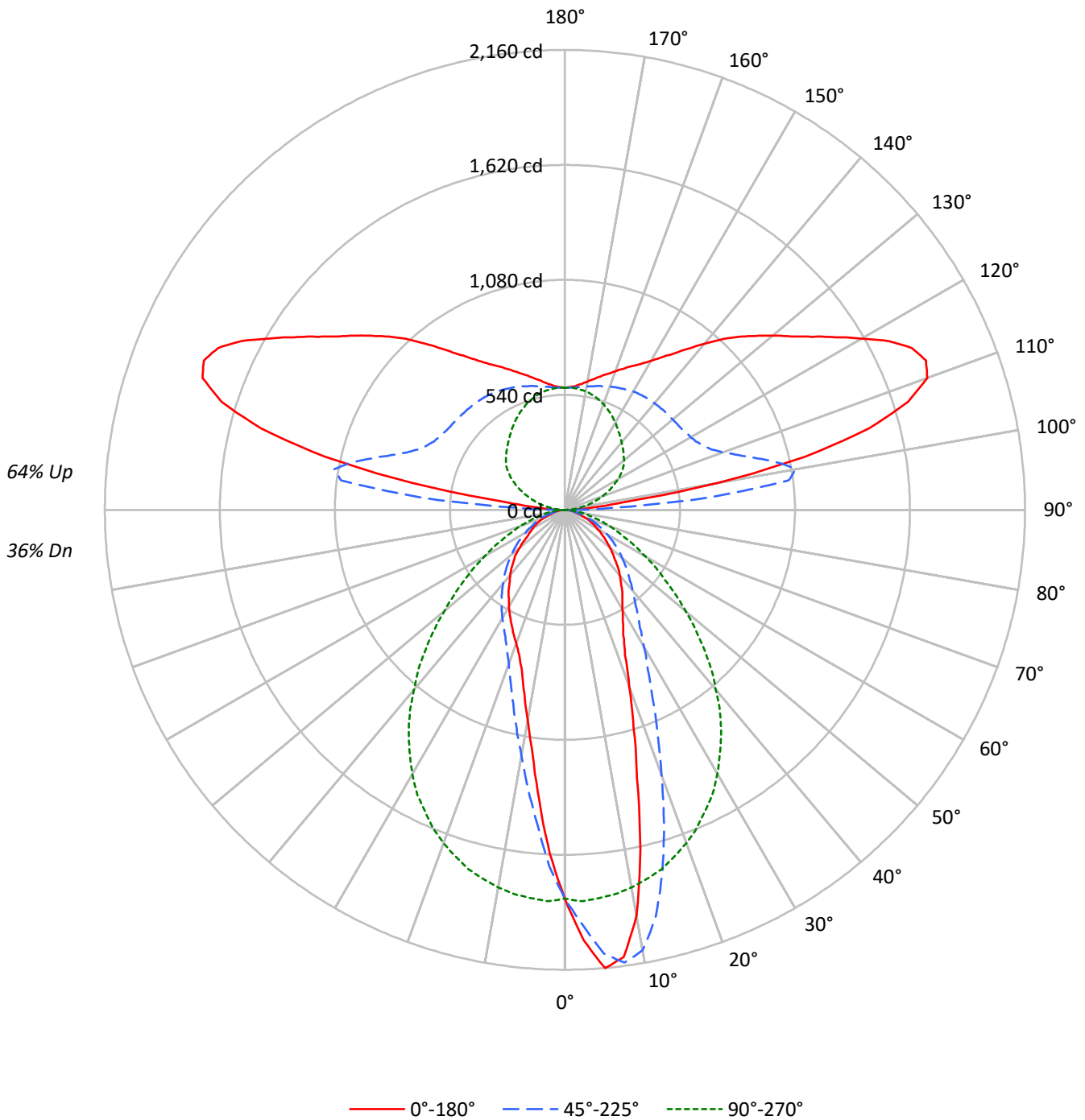
Lumens per Lamp: N/A
Luminaire Lumens: 6742.0 lumens
Efficiency: N/A
Efficacy: 133.2 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 50.6
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	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36				
1	95	91	88	84	86	83	80	77	67	65	63	52	51	50	39	38	38	31				
2	87	80	75	70	79	73	68	64	59	56	53	47	45	43	35	34	33	27				
3	80	71	64	59	72	65	59	54	53	49	45	42	39	37	32	30	28	24				
4	73	63	56	50	66	58	51	47	47	43	39	38	35	32	29	27	25	21				
5	68	57	49	44	61	52	45	40	43	38	34	34	31	28	26	24	22	19				
6	62	51	44	38	57	47	40	35	39	34	30	31	28	25	24	22	20	17				
7	58	46	39	34	52	43	36	31	35	30	27	29	25	23	22	20	18	15				
8	54	42	35	30	49	39	32	28	32	28	24	26	23	20	21	18	17	14				
9	50	39	32	27	46	36	29	25	30	25	22	24	21	18	19	17	15	13				
10	47	36	29	24	43	33	27	23	28	23	20	23	19	17	18	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	19659	19659	19659	19659	19659
5°	23342	22598	19783	15991	14847
10°	21148	22954	19684	12813	10992
15°	14561	19681	19476	10473	8695
20°	10131	15152	19085	8830	7643
25°	7720	11548	18516	7848	7044
30°	6719	9232	17805	7287	6524
35°	6169	7788	16796	6815	6051
40°	5629	6955	15477	6350	5619
45°	5084	6360	14055	5911	5186
50°	4615	5868	12377	5479	4652
55°	4174	5390	10764	5059	3992
60°	3739	4900	9350	4594	3772
65°	3451	4348	8048	4129	3566
70°	2804	3758	7021	3736	2899
75°	2462	2990	5947	3098	2554
80°	2225	2529	4872	2597	2411
85°	2038	2223	3705	2359	2223

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 14830 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.5	2.5
10°-20°	385.2	5.7
20°-30°	442.0	6.6
30°-40°	435.6	6.5
40°-50°	384.2	5.7
50°-60°	295.6	4.4
60°-70°	194.3	2.9
70°-80°	94.4	1.4
80°-90°	27.0	0.4
90°-100°	311.5	4.6
100°-110°	911.8	13.5
110°-120°	890.4	13.2
120°-130°	709.1	10.5
130°-140°	559.5	8.3
140°-150°	417.4	6.2
150°-160°	291.0	4.3
160°-170°	171.0	2.5
170°-180°	55.6	0.8
0°-30°	993.7	14.7
0°-40°	1429.3	21.2
0°-60°	2109.0	31.3
0°-90°	2424.7	36.0
90°-120°	2113.7	31.4
90°-150°	3799.8	56.4
90°-180°	4317.0	64.0
0°-180°	6742.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1826	1826	1826	1826	1826	
5°	2160	2091	1831	1480	1374	197
15°	1307	1766	1748	940	780	369
25°	650	972	1559	661	593	307
35°	470	593	1278	519	460	293
45°	334	418	923	388	341	259
55°	222	287	574	270	213	200
65°	136	171	316	162	140	133
75°	59	72	143	74	61	64
85°	16	18	30	19	18	18
90°	34	29	2	29	34	19
95°	135	689	40	689	135	219
105°	1478	934	135	934	1478	1474
115°	1797	714	238	714	1797	1753
125°	1418	667	331	667	1418	1283
135°	1149	658	388	658	1149	891
145°	898	650	443	650	898	570
155°	745	629	503	629	745	347
165°	650	602	550	602	650	185
175°	584	577	573	577	584	57
180°	574	574	574	574	574	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4
2.5°	2024.1	2017.7	2011.3	2009.5	2007.6	2001.6	1995.6	1982.1	1968.6	1954.8	1940.9
5°	2160.3	2161.1	2161.8	2160.0	2158.1	2150.2	2142.4	2125.9	2109.4	2091.4	2073.5
7.5°	2118.4	2130.4	2142.4	2144.6	2146.9	2152.8	2158.8	2155.1	2151.4	2144.6	2137.9
10°	1934.9	1934.2	1933.4	1946.9	1960.4	2000.5	2040.5	2061.1	2081.7	2100.1	2118.4
12.5°	1635.4	1636.5	1637.7	1681.8	1726.0	1763.8	1801.7	1854.1	1906.5	1963.0	2019.6
15°	1306.7	1325.0	1343.4	1382.7	1422.0	1478.9	1535.8	1606.2	1676.6	1766.1	1855.6
17.5°	1073.1	1080.9	1088.8	1126.6	1164.4	1218.3	1272.2	1352.0	1431.7	1547.1	1662.4
20°	884.4	891.5	898.6	925.9	953.2	1004.9	1056.6	1132.6	1208.6	1322.8	1437.0
22.5°	738.3	752.2	766.0	784.4	802.7	840.2	877.6	955.1	1032.6	1136.7	1240.8
25°	650.0	656.3	662.7	678.4	694.2	730.1	766.0	817.3	868.6	972.3	1076.1
27.5°	590.1	591.9	593.8	605.4	617.0	640.2	663.5	711.0	758.6	843.9	929.3
30°	540.6	544.0	547.4	556.4	565.4	582.2	599.1	632.8	666.4	742.8	819.2
32.5°	502.5	504.3	506.2	513.7	521.2	533.5	545.9	572.5	599.1	657.5	715.9
35°	469.5	469.9	470.3	475.9	481.5	493.5	505.5	527.5	549.6	592.7	635.7
37.5°	432.1	434.7	437.3	441.4	445.5	456.0	466.5	484.5	502.5	538.0	573.6
40°	400.6	402.9	405.1	410.0	414.8	423.1	431.3	447.8	464.3	495.0	525.7
42.5°	369.2	370.7	372.2	377.0	381.9	392.0	402.1	415.2	428.3	453.8	479.2
45°	334.0	337.7	341.5	346.7	351.9	360.6	369.2	382.6	396.1	417.8	439.6
47.5°	304.8	306.6	308.5	313.0	317.5	328.0	338.5	350.4	362.4	382.6	402.9
50°	275.6	276.3	277.1	281.2	285.3	294.7	304.0	317.9	331.7	350.4	369.2
52.5°	247.9	249.7	251.6	255.7	259.8	266.2	272.6	286.8	301.0	319.4	337.7
55°	222.4	223.5	224.6	227.6	230.6	238.1	245.6	258.0	270.3	287.2	304.0
57.5°	198.4	199.9	201.4	203.7	205.9	212.7	219.4	230.3	241.1	258.0	274.8
60°	173.7	175.6	177.5	180.1	182.7	188.0	193.2	202.9	212.7	227.6	242.6
62.5°	155.8	156.1	156.5	158.7	161.0	164.7	168.5	176.3	184.2	199.2	214.2
65°	135.5	136.7	137.8	138.9	140.0	143.0	146.0	152.8	159.5	170.7	182.0
67.5°	114.6	115.7	116.8	118.7	120.6	123.2	125.8	130.3	134.8	145.3	155.8
70°	89.1	89.1	89.1	92.1	95.1	99.6	104.1	107.5	110.8	119.4	128.0
72.5°	72.6	73.0	73.4	73.8	74.1	76.8	79.4	85.0	90.6	95.8	101.1
75°	59.2	59.5	59.9	60.3	60.7	61.4	62.2	64.0	65.9	71.9	77.9
77.5°	47.2	47.5	47.9	48.3	48.7	49.4	50.2	50.9	51.7	53.9	56.2
80°	35.9	36.3	36.7	37.1	37.4	37.8	38.2	38.9	39.7	40.8	41.9
82.5°	26.2	26.2	26.2	26.2	26.2	27.0	27.7	27.7	27.7	28.5	29.2
85°	16.5	16.5	16.5	16.8	17.2	17.2	17.2	17.6	18.0	18.0	18.0
87.5°	7.5	7.1	6.7	7.1	7.5	7.5	7.5	7.9	8.2	8.2	8.2
90°	33.7	34.9	33.7	32.5	33.7	31.4	30.2	29.0	27.9	29.0	25.6
92.5°	61.6	63.9	62.7	67.4	69.7	77.8	89.5	115.0	161.5	216.1	239.3
95°	134.8	139.4	147.6	158.0	180.1	221.9	283.5	418.3	558.8	689.0	613.5
97.5°	276.5	289.3	317.2	361.3	439.2	571.6	725.0	960.8	1095.6	1059.6	791.2
100°	728.5	727.3	772.6	857.4	974.8	1139.8	1275.7	1369.8	1329.2	1100.3	743.6
102.5°	1153.7	1187.4	1223.4	1286.2	1371.0	1460.4	1525.5	1505.8	1340.8	1024.7	673.9
105°	1477.9	1483.7	1520.9	1565.0	1618.5	1648.7	1626.6	1510.4	1267.6	934.1	619.3
107.5°	1689.3	1702.1	1717.2	1738.1	1745.1	1713.7	1623.1	1440.7	1163.0	854.0	579.8
110°	1810.2	1812.5	1814.8	1805.5	1773.0	1691.7	1545.3	1331.5	1065.4	787.7	558.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1834.6	1833.4	1821.8	1788.1	1721.9	1611.5	1443.0	1223.4	980.6	743.6	547.2
115°	1797.4	1791.6	1768.3	1717.2	1630.1	1503.4	1332.6	1130.5	915.5	714.5	546.1
117.5°	1716.0	1707.9	1673.1	1616.1	1525.5	1394.2	1237.4	1058.4	872.5	694.8	547.2
120°	1609.2	1602.2	1574.3	1509.2	1417.5	1300.1	1160.7	1003.8	840.0	682.0	551.9
122.5°	1509.2	1499.9	1468.6	1411.6	1332.6	1225.7	1099.1	960.8	813.3	673.9	560.0
125°	1417.5	1409.3	1380.3	1329.2	1254.8	1161.8	1050.3	923.7	791.2	666.9	568.1
127.5°	1338.4	1331.5	1304.8	1260.6	1193.2	1107.2	1005.0	890.0	770.3	663.4	577.4
130°	1273.4	1264.1	1239.7	1197.9	1136.3	1057.3	963.2	858.6	754.0	659.9	586.7
132.5°	1209.5	1203.7	1182.8	1140.9	1084.0	1009.6	923.7	829.6	738.9	658.8	593.7
135°	1149.1	1140.9	1120.0	1085.2	1028.2	962.0	886.5	804.0	726.2	657.6	600.7
137.5°	1085.2	1078.2	1060.8	1024.7	976.0	916.7	849.3	779.6	714.5	655.3	605.3
140°	1017.8	1018.9	1000.4	967.8	923.7	873.7	817.9	758.7	704.1	654.1	610.0
142.5°	955.0	956.2	939.9	912.1	876.0	834.2	787.7	738.9	694.8	651.8	613.5
145°	898.1	895.8	886.5	862.1	833.0	799.4	762.2	723.8	686.7	649.5	614.6
147.5°	849.3	848.1	838.9	821.4	798.2	773.8	742.4	711.1	678.5	646.0	614.6
150°	807.5	807.5	800.5	787.7	770.3	748.2	723.8	697.1	670.4	641.3	614.6
152.5°	772.6	772.6	769.1	757.5	744.7	727.3	706.4	684.3	661.1	635.5	611.1
155°	744.7	743.6	741.3	732.0	721.5	707.6	690.1	671.5	651.8	628.6	608.8
157.5°	718.0	718.0	715.7	708.7	699.4	687.8	673.9	657.6	641.3	622.8	605.3
160°	692.5	693.6	693.6	686.7	678.5	670.4	658.8	646.0	630.9	615.8	603.0
162.5°	669.2	670.4	670.4	664.6	659.9	653.0	642.5	632.0	620.4	608.8	598.4
165°	649.5	649.5	650.6	646.0	641.3	635.5	627.4	620.4	611.1	601.8	593.7
167.5°	629.7	629.7	630.9	627.4	625.1	620.4	615.8	610.0	601.8	594.9	589.1
170°	612.3	612.3	613.5	611.1	610.0	607.6	603.0	599.5	593.7	587.9	584.4
172.5°	596.0	597.2	599.5	597.2	597.2	596.0	592.5	590.2	585.6	582.1	580.9
175°	584.4	585.6	586.7	585.6	585.6	585.6	583.2	582.1	579.8	577.4	577.4
177.5°	576.3	576.3	578.6	577.4	578.6	578.6	577.4	576.3	575.1	574.0	575.1
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4
2.5°	1939.1	1937.2	1919.2	1901.2	1883.7	1866.1	1852.9	1839.8	1817.8	1795.7	1781.8
5°	2059.2	2045.0	2016.6	1988.1	1945.4	1902.7	1866.8	1830.9	1785.2	1739.5	1701.3
7.5°	2126.3	2114.7	2080.2	2045.8	1989.2	1932.7	1876.5	1820.4	1753.0	1685.6	1627.9
10°	2128.1	2137.9	2109.4	2081.0	2017.3	1953.7	1877.3	1800.9	1710.3	1619.7	1545.2
12.5°	2061.5	2103.4	2097.4	2091.4	2026.7	1961.9	1869.0	1776.2	1665.0	1553.8	1460.6
15°	1936.8	2018.1	2042.0	2066.0	2012.4	1958.9	1853.3	1747.7	1617.1	1486.4	1379.3
17.5°	1776.2	1890.0	1953.3	2016.6	1977.6	1938.7	1823.0	1707.3	1560.2	1413.0	1296.6
20°	1586.0	1735.0	1834.2	1933.4	1919.2	1905.0	1785.6	1666.1	1507.4	1348.6	1222.4
22.5°	1398.0	1555.3	1692.3	1829.4	1844.0	1858.6	1738.0	1617.4	1443.7	1270.0	1141.6
25°	1235.9	1395.8	1559.0	1722.3	1755.2	1788.2	1673.6	1559.0	1378.9	1198.9	1071.2
27.5°	1081.3	1233.3	1413.0	1592.7	1652.6	1712.5	1607.7	1502.9	1315.3	1127.7	1000.4
30°	955.1	1091.0	1274.5	1457.9	1541.4	1624.9	1528.7	1432.5	1246.4	1060.3	935.6
32.5°	837.6	959.2	1143.4	1327.7	1424.6	1521.6	1438.5	1355.4	1176.4	997.4	874.2
35°	744.7	853.7	1025.5	1197.4	1305.9	1414.5	1346.4	1278.2	1103.4	928.5	812.1
37.5°	664.9	756.3	917.7	1079.0	1194.4	1309.7	1252.8	1195.9	1031.5	867.1	757.1
40°	599.1	672.4	822.6	972.7	1085.8	1198.9	1150.2	1101.5	954.4	807.2	704.3
42.5°	542.5	605.8	740.6	875.4	979.1	1082.8	1050.6	1018.4	885.1	751.8	656.3
45°	492.7	545.9	664.6	783.3	878.7	974.2	948.8	923.3	808.3	693.4	605.8
47.5°	448.5	494.2	600.2	706.1	791.9	877.6	854.0	830.4	735.3	640.2	560.5
50°	408.1	447.0	535.4	623.8	700.9	778.0	758.6	739.1	660.5	581.8	512.9
52.5°	369.9	402.1	481.5	560.9	623.0	685.2	670.2	655.2	594.6	533.9	471.4
55°	333.6	363.2	430.2	497.2	550.4	603.5	588.6	573.6	526.4	479.2	424.2
57.5°	300.7	326.5	380.8	435.1	477.4	519.7	512.6	505.5	466.1	426.8	381.5
60°	265.8	289.0	335.8	382.6	416.7	450.8	442.6	434.3	406.2	378.2	339.2
62.5°	234.8	255.3	292.8	330.2	357.9	385.6	379.7	373.7	352.3	331.0	298.8
65°	202.2	222.4	252.7	283.1	304.8	326.5	321.2	316.0	299.9	283.8	258.0
67.5°	172.6	189.5	215.7	241.9	256.5	271.1	268.1	265.1	252.7	240.4	220.2
70°	142.6	157.3	179.0	200.7	210.8	220.9	222.0	223.1	211.9	200.7	185.7
72.5°	112.7	124.3	144.5	164.7	172.6	180.5	180.1	179.7	173.0	166.2	152.8
75°	86.5	95.1	110.8	126.6	133.3	140.0	141.5	143.0	136.7	130.3	122.8
77.5°	62.2	68.1	80.1	92.1	99.6	107.1	107.8	108.6	105.6	102.6	95.5
80°	43.8	45.7	53.2	60.7	68.5	76.4	77.5	78.6	75.6	72.6	68.1
82.5°	30.3	31.5	34.1	36.7	43.1	49.4	50.9	52.4	50.9	49.4	44.6
85°	18.3	18.7	19.8	21.0	24.0	27.0	28.5	30.0	29.2	28.5	25.8
87.5°	8.2	8.2	8.6	9.0	9.7	10.5	12.4	14.2	13.1	12.0	10.9
90°	22.1	18.6	15.1	12.8	10.5	7.0	4.6	2.3	4.6	7.0	10.5
92.5°	178.9	117.3	80.2	59.3	47.6	37.2	25.6	17.4	25.6	37.2	47.6
95°	422.9	249.8	151.0	105.7	75.5	55.8	43.0	39.5	43.0	55.8	75.5
97.5°	470.5	269.5	172.0	122.0	91.8	74.4	63.9	62.7	63.9	74.4	91.8
100°	438.0	266.1	184.7	139.4	111.5	95.3	87.1	86.0	87.1	95.3	111.5
102.5°	410.1	270.7	199.8	159.2	134.8	119.7	112.7	110.4	112.7	119.7	134.8
105°	399.7	280.0	217.3	181.2	159.2	145.2	138.3	134.8	138.3	145.2	159.2
107.5°	397.4	295.1	239.3	205.6	184.7	170.8	163.8	160.3	163.8	170.8	184.7
110°	403.2	314.9	262.6	230.0	210.3	197.5	191.7	188.2	191.7	197.5	210.3



TEST NUMBER: P832202

CATALOG NUMBER: S123RDIP-S560D1195U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	414.8	334.6	287.0	255.6	235.9	223.1	217.3	213.8	217.3	223.1	235.9
115°	427.6	356.7	312.5	281.2	261.4	249.8	242.8	238.2	242.8	249.8	261.4
117.5°	443.8	379.9	335.8	306.7	284.7	274.2	268.4	262.6	268.4	274.2	284.7
120°	462.4	402.0	360.2	331.1	309.1	297.4	291.6	288.1	291.6	297.4	309.1
122.5°	479.8	425.2	384.6	353.2	332.3	319.5	313.7	310.2	313.7	319.5	332.3
125°	498.4	447.3	406.6	375.3	353.2	340.4	333.5	331.1	333.5	340.4	353.2
127.5°	513.5	467.1	427.6	396.2	371.8	359.0	350.9	347.4	350.9	359.0	371.8
130°	528.6	484.5	446.1	414.8	390.4	376.4	366.0	362.5	366.0	376.4	390.4
132.5°	542.6	499.6	462.4	432.2	407.8	390.4	378.8	374.1	378.8	390.4	407.8
135°	554.2	514.7	478.7	447.3	422.9	405.5	392.7	388.1	392.7	405.5	422.9
137.5°	563.5	525.2	490.3	461.3	436.9	418.3	405.5	400.8	405.5	418.3	436.9
140°	570.5	535.6	501.9	472.9	449.6	431.0	419.4	413.6	419.4	431.0	449.6
142.5°	577.4	543.7	511.2	484.5	461.3	445.0	432.2	427.6	432.2	445.0	461.3
145°	582.1	550.7	520.5	493.8	474.0	456.6	446.1	442.7	446.1	456.6	474.0
147.5°	585.6	556.5	528.6	505.4	485.7	470.5	460.1	457.8	460.1	470.5	485.7
150°	586.7	562.3	535.6	514.7	498.4	483.3	474.0	472.9	474.0	483.3	498.4
152.5°	589.1	565.8	543.7	524.0	510.1	497.3	488.0	488.0	488.0	497.3	510.1
155°	589.1	570.5	550.7	534.4	521.7	510.1	503.1	503.1	503.1	510.1	521.7
157.5°	590.2	572.8	556.5	543.7	532.1	521.7	515.9	514.7	515.9	521.7	532.1
160°	590.2	576.3	562.3	550.7	542.6	533.3	528.6	528.6	528.6	533.3	542.6
162.5°	589.1	577.4	565.8	556.5	549.6	542.6	539.1	539.1	539.1	542.6	549.6
165°	586.7	578.6	569.3	561.2	556.5	550.7	548.4	549.6	548.4	550.7	556.5
167.5°	585.6	578.6	571.6	565.8	562.3	557.7	556.5	557.7	556.5	557.7	562.3
170°	582.1	577.4	571.6	569.3	567.0	563.5	562.3	564.7	562.3	563.5	567.0
172.5°	580.9	577.4	572.8	571.6	570.5	568.1	568.1	569.3	568.1	568.1	570.5
175°	578.6	576.3	574.0	572.8	572.8	570.5	571.6	572.8	571.6	570.5	572.8
177.5°	577.4	575.1	574.0	574.0	574.0	572.8	574.0	575.1	574.0	572.8	574.0
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0



TEST NUMBER: P832202

CATALOG NUMBER: S123RDIP-S560D1195U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4	1826.4
2.5°	1768.0	1746.6	1725.3	1709.9	1694.6	1675.5	1656.4	1655.6	1654.9	1640.7	1626.4
5°	1663.1	1626.1	1589.0	1552.7	1516.4	1480.0	1443.7	1435.5	1427.2	1414.9	1402.5
7.5°	1570.3	1511.1	1452.0	1405.5	1359.1	1322.8	1286.5	1261.8	1237.0	1218.0	1198.9
10°	1470.7	1397.3	1323.9	1267.7	1211.6	1172.3	1133.0	1104.5	1076.1	1062.6	1049.1
12.5°	1367.3	1287.6	1207.8	1152.8	1097.8	1050.6	1003.4	977.6	951.7	933.0	914.3
15°	1272.2	1186.5	1100.8	1042.4	983.9	939.8	895.6	869.8	843.9	825.2	806.5
17.5°	1180.1	1093.6	1007.2	948.0	888.8	848.8	808.7	783.6	758.6	746.9	735.3
20°	1096.3	1009.0	921.8	866.0	810.2	770.9	731.6	718.1	704.6	693.8	682.9
22.5°	1013.1	929.3	845.4	791.9	738.3	709.9	681.4	670.6	659.7	651.5	643.2
25°	943.5	860.0	776.5	729.7	682.9	660.8	638.7	631.6	624.5	616.3	608.0
27.5°	873.1	793.7	714.4	676.9	639.5	621.5	603.5	594.6	585.6	578.8	572.1
30°	811.0	737.6	664.2	633.1	602.0	586.3	570.6	560.9	551.1	544.8	538.4
32.5°	751.1	685.9	620.8	594.2	567.6	552.3	536.9	527.5	518.2	510.7	503.2
35°	695.7	639.1	582.6	558.2	533.9	518.6	503.2	493.8	484.5	477.0	469.5
37.5°	647.0	595.7	544.4	521.6	498.7	485.2	471.8	462.0	452.3	444.4	436.6
40°	601.3	556.0	510.7	488.6	466.5	451.9	437.3	428.7	420.1	413.0	405.9
42.5°	560.9	519.3	477.7	456.0	434.3	420.5	406.6	396.5	386.4	382.3	378.2
45°	518.2	481.5	444.8	423.8	402.9	388.3	373.7	365.0	356.4	352.7	348.9
47.5°	480.7	446.7	412.6	392.0	371.4	358.3	345.2	338.5	331.7	326.5	321.2
50°	444.0	411.1	378.2	358.3	338.5	327.2	316.0	307.8	299.5	295.8	292.0
52.5°	408.9	378.9	348.9	328.7	308.5	297.7	286.8	279.7	272.6	264.7	256.8
55°	369.2	343.0	316.7	298.8	280.8	269.6	258.3	250.1	241.9	233.6	225.4
57.5°	336.2	310.4	284.6	268.5	252.4	241.5	230.6	221.6	212.7	205.9	199.2
60°	300.3	277.8	255.3	239.6	223.9	213.4	202.9	194.3	185.7	182.3	179.0
62.5°	266.6	245.6	224.6	210.8	196.9	186.8	176.7	171.1	165.5	163.2	161.0
65°	232.1	214.2	196.2	183.5	170.7	162.1	153.5	150.9	148.3	146.4	144.5
67.5°	199.9	184.6	169.2	158.0	146.8	140.8	134.8	131.8	128.8	126.6	124.3
70°	170.7	157.3	143.8	134.0	124.3	118.7	113.1	110.5	107.8	103.7	99.6
72.5°	139.3	128.8	118.3	110.8	103.3	98.5	93.6	88.4	83.1	79.4	75.6
75°	115.3	104.8	94.4	87.2	80.1	74.5	68.9	67.0	65.1	64.0	62.9
77.5°	88.4	79.4	70.4	64.8	59.2	56.5	53.9	52.8	51.7	51.3	50.9
80°	63.6	56.2	48.7	45.7	42.7	41.9	41.2	40.4	39.7	39.3	38.9
82.5°	39.7	35.9	32.2	31.5	30.7	30.3	30.0	29.6	29.2	28.8	28.5
85°	23.2	21.7	20.2	19.8	19.5	19.1	18.7	18.7	18.7	18.7	18.7
87.5°	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.4	9.0
90°	12.8	15.1	18.6	22.1	25.6	29.0	27.9	29.0	30.2	31.4	33.7
92.5°	59.3	80.2	117.3	178.9	239.3	216.1	161.5	115.0	89.5	77.8	69.7
95°	105.7	151.0	249.8	422.9	613.5	689.0	558.8	418.3	283.5	221.9	180.1
97.5°	122.0	172.0	269.5	470.5	791.2	1059.6	1095.6	960.8	725.0	571.6	439.2
100°	139.4	184.7	266.1	438.0	743.6	1100.3	1329.2	1369.8	1275.7	1139.8	974.8
102.5°	159.2	199.8	270.7	410.1	673.9	1024.7	1340.8	1505.8	1525.5	1460.4	1371.0
105°	181.2	217.3	280.0	399.7	619.3	934.1	1267.6	1510.4	1626.6	1648.7	1618.5
107.5°	205.6	239.3	295.1	397.4	579.8	854.0	1163.0	1440.7	1623.1	1713.7	1745.1
110°	230.0	262.6	314.9	403.2	558.8	787.7	1065.4	1331.5	1545.3	1691.7	1773.0



TEST NUMBER: P832202

CATALOG NUMBER: S123RDIP-S560D1195U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	255.6	287.0	334.6	414.8	547.2	743.6	980.6	1223.4	1443.0	1611.5	1721.9
115°	281.2	312.5	356.7	427.6	546.1	714.5	915.5	1130.5	1332.6	1503.4	1630.1
117.5°	306.7	335.8	379.9	443.8	547.2	694.8	872.5	1058.4	1237.4	1394.2	1525.5
120°	331.1	360.2	402.0	462.4	551.9	682.0	840.0	1003.8	1160.7	1300.1	1417.5
122.5°	353.2	384.6	425.2	479.8	560.0	673.9	813.3	960.8	1099.1	1225.7	1332.6
125°	375.3	406.6	447.3	498.4	568.1	666.9	791.2	923.7	1050.3	1161.8	1254.8
127.5°	396.2	427.6	467.1	513.5	577.4	663.4	770.3	890.0	1005.0	1107.2	1193.2
130°	414.8	446.1	484.5	528.6	586.7	659.9	754.0	858.6	963.2	1057.3	1136.3
132.5°	432.2	462.4	499.6	542.6	593.7	658.8	738.9	829.6	923.7	1009.6	1084.0
135°	447.3	478.7	514.7	554.2	600.7	657.6	726.2	804.0	886.5	962.0	1028.2
137.5°	461.3	490.3	525.2	563.5	605.3	655.3	714.5	779.6	849.3	916.7	976.0
140°	472.9	501.9	535.6	570.5	610.0	654.1	704.1	758.7	817.9	873.7	923.7
142.5°	484.5	511.2	543.7	577.4	613.5	651.8	694.8	738.9	787.7	834.2	876.0
145°	493.8	520.5	550.7	582.1	614.6	649.5	686.7	723.8	762.2	799.4	833.0
147.5°	505.4	528.6	556.5	585.6	614.6	646.0	678.5	711.1	742.4	773.8	798.2
150°	514.7	535.6	562.3	586.7	614.6	641.3	670.4	697.1	723.8	748.2	770.3
152.5°	524.0	543.7	565.8	589.1	611.1	635.5	661.1	684.3	706.4	727.3	744.7
155°	534.4	550.7	570.5	589.1	608.8	628.6	651.8	671.5	690.1	707.6	721.5
157.5°	543.7	556.5	572.8	590.2	605.3	622.8	641.3	657.6	673.9	687.8	699.4
160°	550.7	562.3	576.3	590.2	603.0	615.8	630.9	646.0	658.8	670.4	678.5
162.5°	556.5	565.8	577.4	589.1	598.4	608.8	620.4	632.0	642.5	653.0	659.9
165°	561.2	569.3	578.6	586.7	593.7	601.8	611.1	620.4	627.4	635.5	641.3
167.5°	565.8	571.6	578.6	585.6	589.1	594.9	601.8	610.0	615.8	620.4	625.1
170°	569.3	571.6	577.4	582.1	584.4	587.9	593.7	599.5	603.0	607.6	610.0
172.5°	571.6	572.8	577.4	580.9	580.9	582.1	585.6	590.2	592.5	596.0	597.2
175°	572.8	574.0	576.3	578.6	577.4	577.4	579.8	582.1	583.2	585.6	585.6
177.5°	574.0	574.0	575.1	577.4	575.1	574.0	575.1	576.3	577.4	578.6	578.6
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0



TEST NUMBER: P832202

CATALOG NUMBER: S123RDIP-S560D1195U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1826.4	1826.4	1826.4	1826.4
2.5°	1622.7	1618.9	1617.4	1615.9
5°	1390.9	1379.3	1376.7	1374.1
7.5°	1194.0	1189.1	1173.0	1156.9
10°	1034.1	1019.1	1012.4	1005.7
12.5°	900.5	886.6	884.4	882.1
15°	796.7	787.0	783.6	780.3
17.5°	728.6	721.9	717.7	713.6
20°	678.1	673.2	670.2	667.2
22.5°	639.5	635.7	633.5	631.3
25°	602.4	596.8	594.9	593.1
27.5°	567.2	562.4	560.5	558.6
30°	534.3	530.2	527.5	524.9
32.5°	498.3	493.5	492.0	490.5
35°	466.5	463.5	462.0	460.5
37.5°	432.8	429.1	426.8	424.6
40°	404.0	402.1	401.0	399.9
42.5°	374.8	371.4	371.0	370.7
45°	345.6	342.2	341.5	340.7
47.5°	318.2	315.3	314.9	314.5
50°	287.9	283.8	280.8	277.8
52.5°	253.1	249.4	246.7	244.1
55°	221.3	217.2	214.9	212.7
57.5°	197.3	195.4	194.3	193.2
60°	177.8	176.7	176.0	175.2
62.5°	159.9	158.7	158.7	158.7
65°	143.4	142.3	141.2	140.0
67.5°	122.1	119.8	119.4	119.1
70°	96.2	92.9	92.5	92.1
72.5°	75.3	74.9	74.1	73.4
75°	62.2	61.4	61.4	61.4
77.5°	50.2	49.4	49.4	49.4
80°	38.6	38.2	38.6	38.9
82.5°	28.5	28.5	28.1	27.7
85°	18.3	18.0	18.0	18.0
87.5°	9.0	9.0	9.0	9.0
90°	32.5	33.7	34.9	33.7
92.5°	67.4	62.7	63.9	61.6
95°	158.0	147.6	139.4	134.8
97.5°	361.3	317.2	289.3	276.5
100°	857.4	772.6	727.3	728.5
102.5°	1286.2	1223.4	1187.4	1153.7
105°	1565.0	1520.9	1483.7	1477.9
107.5°	1738.1	1717.2	1702.1	1689.3
110°	1805.5	1814.8	1812.5	1810.2



TEST NUMBER: P832202

CATALOG NUMBER: S123RDIP-S560D1195U835-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1788.1	1821.8	1833.4	1834.6
115°	1717.2	1768.3	1791.6	1797.4
117.5°	1616.1	1673.1	1707.9	1716.0
120°	1509.2	1574.3	1602.2	1609.2
122.5°	1411.6	1468.6	1499.9	1509.2
125°	1329.2	1380.3	1409.3	1417.5
127.5°	1260.6	1304.8	1331.5	1338.4
130°	1197.9	1239.7	1264.1	1273.4
132.5°	1140.9	1182.8	1203.7	1209.5
135°	1085.2	1120.0	1140.9	1149.1
137.5°	1024.7	1060.8	1078.2	1085.2
140°	967.8	1000.4	1018.9	1017.8
142.5°	912.1	939.9	956.2	955.0
145°	862.1	886.5	895.8	898.1
147.5°	821.4	838.9	848.1	849.3
150°	787.7	800.5	807.5	807.5
152.5°	757.5	769.1	772.6	772.6
155°	732.0	741.3	743.6	744.7
157.5°	708.7	715.7	718.0	718.0
160°	686.7	693.6	693.6	692.5
162.5°	664.6	670.4	670.4	669.2
165°	646.0	650.6	649.5	649.5
167.5°	627.4	630.9	629.7	629.7
170°	611.1	613.5	612.3	612.3
172.5°	597.2	599.5	597.2	596.0
175°	585.6	586.7	585.6	584.4
177.5°	577.4	578.6	576.3	576.3
180°	574.0	574.0	574.0	574.0



TEST NUMBER: P832202

CATALOG NUMBER: S123RDIP-S560D1195U835-4F0-1E-UDD-G4

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	9.61	10.32	10.69	11.40	12.86	14.28	14.99	15.35	16.06	17.52
	3H	10.82	11.46	11.91	12.54	14.02	15.77	16.40	16.85	17.49	18.97
	4H	11.20	11.81	12.30	12.89	14.37	16.25	16.85	17.35	17.94	19.42
	6H	11.48	12.03	12.58	13.12	14.62	16.56	17.11	17.66	18.20	19.70
	8H	11.56	12.09	12.67	13.19	14.68	16.63	17.16	17.74	18.26	19.75
	12H	11.61	12.11	12.72	13.20	14.72	16.66	17.16	17.78	18.26	19.77
4H	2H	10.32	10.92	11.43	12.01	13.49	14.26	14.86	15.36	15.94	17.43
	3H	11.68	12.18	12.79	13.29	14.79	15.91	16.41	17.02	17.52	19.02
	4H	12.13	12.59	13.25	13.69	15.21	16.51	16.97	17.62	18.07	19.59
	6H	12.49	12.89	13.62	14.01	15.52	16.94	17.33	18.06	18.46	19.97
	8H	12.62	12.98	13.74	14.10	15.63	17.07	17.44	18.19	18.55	20.08
	12H	12.69	13.02	13.83	14.15	15.68	17.13	17.46	18.26	18.58	20.12
8H	4H	12.44	12.81	13.56	13.92	15.45	16.47	16.83	17.59	17.95	19.48
	6H	12.90	13.20	14.04	14.36	15.88	16.96	17.26	18.10	18.42	19.94
	8H	13.09	13.36	14.24	14.49	16.04	17.14	17.41	18.29	18.55	20.09
	12H	13.23	13.46	14.38	14.59	16.17	17.26	17.49	18.41	18.62	20.20
12H	4H	12.44	12.78	13.58	13.90	15.44	16.41	16.74	17.55	17.87	19.40
	6H	12.96	13.22	14.11	14.36	15.90	16.93	17.20	18.08	18.34	19.88
	8H	13.17	13.40	14.32	14.54	16.12	17.12	17.35	18.27	18.49	20.07