

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: P832189

Luminaire Tested: S123RDIP-S560D1025U935-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P832189
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D1025U935-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

Summary

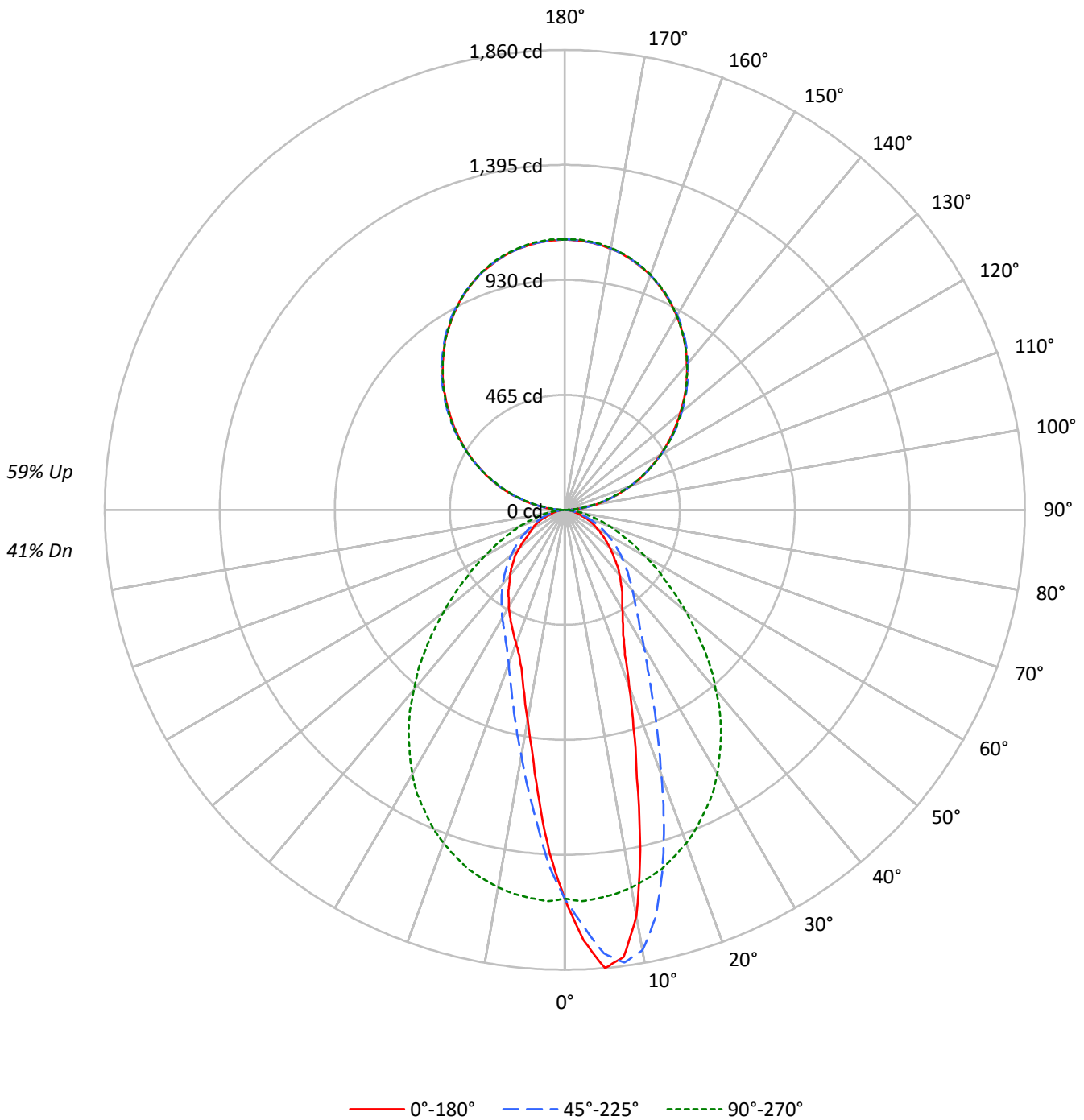
Lumens per Lamp: N/A
Luminaire Lumens: 5118.7 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 45.5
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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41				41
1	96	92	89	85	88	84	81	79	69	67	65	56	54	53	43	42	41	36				36
2	88	81	76	71	80	75	70	66	62	58	55	50	47	45	39	37	36	31				31
3	81	72	65	60	74	66	60	56	55	51	47	45	42	39	35	33	31	27				27
4	74	64	57	51	68	59	53	48	49	45	41	40	37	34	32	30	28	24				24
5	69	58	50	45	63	53	47	42	45	40	36	37	33	30	29	27	25	21				21
6	63	52	44	39	58	48	41	37	40	35	32	33	30	27	27	24	22	19				19
7	59	47	40	35	54	44	37	32	37	32	28	31	27	24	25	22	20	18				18
8	55	43	36	31	50	40	34	29	34	29	25	28	25	22	23	20	18	16				16
9	51	40	33	28	47	37	30	26	31	26	23	26	23	20	21	19	17	15				15
10	48	36	30	25	44	34	28	24	29	24	21	24	21	18	20	17	16	14				14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	16926	16926	16926	16926	16926
5°	20097	19457	17033	13769	12783
10°	18209	19762	16948	11032	9464
15°	12538	16945	16769	9016	7486
20°	8722	13046	16432	7602	6581
25°	6646	9943	15942	6758	6064
30°	5786	7950	15330	6274	5618
35°	5311	6706	14462	5867	5210
40°	4846	5989	13326	5467	4838
45°	4376	5477	12102	5089	4466
50°	3974	5052	10655	4717	4006
55°	3594	4641	9269	4356	3436
60°	3221	4219	8049	3955	3249
65°	2972	3744	6930	3556	3072
70°	2414	3235	6046	3216	2496
75°	2117	2574	5120	2670	2200
80°	1915	2176	4197	2238	2077
85°	1754	1914	3186	2025	1914

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 12769 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.3	2.8
10°-20°	331.7	6.5
20°-30°	380.5	7.4
30°-40°	375.1	7.3
40°-50°	330.8	6.5
50°-60°	254.5	5.0
60°-70°	167.3	3.3
70°-80°	81.3	1.6
80°-90°	22.8	0.4
90°-100°	70.4	1.4
100°-110°	213.2	4.2
110°-120°	362.9	7.1
120°-130°	477.4	9.3
130°-140°	536.6	10.5
140°-150°	527.6	10.3
150°-160°	444.2	8.7
160°-170°	295.7	5.8
170°-180°	103.5	2.0
0°-30°	855.5	16.7
0°-40°	1230.6	24.0
0°-60°	1815.9	35.5
0°-90°	2087.2	40.8
90°-120°	646.5	12.6
90°-150°	2188.1	42.7
90°-180°	3031.0	59.2
0°-180°	5118.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1572	1572	1572	1572	1572	
5°	1860	1801	1576	1274	1183	170
15°	1125	1521	1505	809	672	318
25°	560	837	1342	569	511	264
35°	404	510	1101	446	396	252
45°	288	360	795	334	293	223
55°	192	247	494	232	183	172
65°	117	147	272	140	121	114
75°	51	62	123	64	53	55
85°	14	16	26	16	16	15
90°	26	21	1	21	26	13
95°	67	64	51	64	67	67
105°	205	203	193	203	205	217
115°	366	366	365	366	366	363
125°	529	535	535	535	529	473
135°	693	698	694	698	693	533
145°	841	846	841	846	841	526
155°	962	964	963	964	962	443
165°	1046	1047	1049	1047	1046	295
175°	1087	1088	1092	1088	1087	103
180°	1094	1094	1094	1094	1094	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5
2.5°	1742.7	1737.2	1731.7	1730.1	1728.5	1723.4	1718.2	1706.6	1695.0	1683.1	1671.1
5°	1860.0	1860.7	1861.3	1859.7	1858.1	1851.3	1844.6	1830.4	1816.2	1800.7	1785.3
7.5°	1823.9	1834.3	1844.6	1846.5	1848.4	1853.6	1858.8	1855.5	1852.3	1846.5	1840.7
10°	1666.0	1665.3	1664.7	1676.3	1687.9	1722.4	1756.9	1774.6	1792.3	1808.1	1823.9
12.5°	1408.1	1409.1	1410.0	1448.1	1486.1	1518.7	1551.2	1596.4	1641.5	1690.2	1738.8
15°	1125.1	1140.9	1156.6	1190.5	1224.3	1273.3	1322.3	1382.9	1443.6	1520.6	1597.6
17.5°	923.9	930.7	937.4	970.0	1002.6	1049.0	1095.4	1164.1	1232.7	1332.0	1431.3
20°	761.4	767.6	773.7	797.2	820.7	865.2	909.7	975.2	1040.6	1138.9	1237.2
22.5°	635.7	647.6	659.6	675.4	691.2	723.4	755.6	822.4	889.1	978.7	1068.3
25°	559.6	565.1	570.6	584.1	597.7	628.6	659.6	703.7	747.9	837.2	926.5
27.5°	508.0	509.7	511.3	521.3	531.3	551.2	571.2	612.2	653.1	726.6	800.1
30°	465.5	468.4	471.3	479.0	486.8	501.3	515.8	544.8	573.8	639.6	705.3
32.5°	432.6	434.2	435.8	442.3	448.7	459.4	470.0	492.9	515.8	566.1	616.4
35°	404.2	404.6	404.9	409.7	414.6	424.9	435.2	454.2	473.2	510.3	547.4
37.5°	372.0	374.3	376.5	380.1	383.6	392.6	401.7	417.1	432.6	463.2	493.9
40°	344.9	346.9	348.8	353.0	357.2	364.3	371.4	385.5	399.7	426.2	452.6
42.5°	317.9	319.1	320.4	324.6	328.8	337.5	346.2	357.5	368.8	390.7	412.6
45°	287.5	290.8	294.0	298.5	303.0	310.4	317.9	329.5	341.1	359.8	378.5
47.5°	262.4	264.0	265.6	269.5	273.4	282.4	291.4	301.7	312.0	329.5	346.9
50°	237.3	237.9	238.6	242.1	245.6	253.7	261.8	273.7	285.6	301.7	317.9
52.5°	213.4	215.0	216.6	220.2	223.7	229.2	234.7	246.9	259.2	275.0	290.8
55°	191.5	192.5	193.4	196.0	198.6	205.0	211.5	222.1	232.7	247.3	261.8
57.5°	170.9	172.1	173.4	175.4	177.3	183.1	188.9	198.3	207.6	222.1	236.6
60°	149.6	151.2	152.8	155.1	157.3	161.8	166.3	174.7	183.1	196.0	208.9
62.5°	134.1	134.4	134.7	136.7	138.6	141.8	145.1	151.8	158.6	171.5	184.4
65°	116.7	117.7	118.6	119.6	120.6	123.1	125.7	131.5	137.3	147.0	156.7
67.5°	98.6	99.6	100.6	102.2	103.8	106.1	108.3	112.2	116.1	125.1	134.1
70°	76.7	76.7	76.7	79.3	81.9	85.7	89.6	92.5	95.4	102.8	110.2
72.5°	62.5	62.9	63.2	63.5	63.8	66.1	68.3	73.2	78.0	82.5	87.0
75°	50.9	51.3	51.6	51.9	52.2	52.9	53.5	55.1	56.7	61.9	67.1
77.5°	40.6	40.9	41.3	41.6	41.9	42.6	43.2	43.8	44.5	46.4	48.4
80°	30.9	31.3	31.6	31.9	32.2	32.6	32.9	33.5	34.2	35.1	36.1
82.5°	22.6	22.6	22.6	22.6	22.6	23.2	23.9	23.9	23.9	24.5	25.1
85°	14.2	14.2	14.2	14.5	14.8	14.8	14.8	15.2	15.5	15.5	15.5
87.5°	6.4	6.1	5.8	6.1	6.4	6.4	6.4	6.8	7.1	7.1	7.1
90°	25.8	25.4	25.0	24.6	24.3	23.7	22.9	22.2	21.4	20.6	18.1
92.5°	37.0	37.3	37.7	38.1	38.5	38.4	37.8	37.2	36.7	36.1	35.0
95°	67.0	67.0	67.0	67.0	67.0	66.7	65.9	65.1	64.4	63.6	62.1
97.5°	96.3	96.4	96.6	96.8	97.0	96.6	95.7	94.7	93.8	92.8	91.7
100°	130.6	130.3	129.9	129.5	129.1	128.6	128.1	127.5	126.9	126.3	125.4
102.5°	165.9	166.1	166.3	166.4	166.6	166.4	165.9	165.3	164.7	164.2	162.8
105°	204.6	204.2	203.8	203.4	203.0	202.8	202.8	202.8	202.8	202.8	201.1
107.5°	244.1	244.3	244.5	244.7	244.8	244.7	244.1	243.5	242.9	242.4	241.6
110°	284.5	284.9	285.2	285.6	286.0	285.8	285.1	284.3	283.5	282.8	282.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	327.5	327.5	327.5	327.5	327.5	327.0	326.0	325.1	324.1	323.2	323.2
115°	366.1	366.3	366.5	366.7	366.9	366.9	366.7	366.5	366.3	366.1	366.5
117.5°	405.7	406.2	406.8	407.4	408.0	408.2	408.2	408.2	408.2	408.2	408.6
120°	447.8	448.2	448.5	448.9	449.3	449.6	449.8	450.0	450.2	450.4	451.3
122.5°	488.2	488.7	489.3	489.9	490.5	491.0	491.6	492.2	492.8	493.3	493.7
125°	528.6	529.3	530.1	530.9	531.6	532.4	533.1	533.9	534.7	535.4	535.8
127.5°	569.0	569.7	570.5	571.3	572.0	573.0	574.1	575.3	576.4	577.6	577.9
130°	608.5	609.8	611.2	612.5	613.8	614.9	615.7	616.4	617.2	617.9	618.5
132.5°	649.7	650.7	651.7	652.6	653.6	654.5	655.5	656.4	657.4	658.3	658.7
135°	692.7	693.1	693.5	693.9	694.2	694.8	695.6	696.3	697.1	697.9	698.1
137.5°	730.5	731.1	731.7	732.3	732.8	733.6	734.5	735.5	736.5	737.4	736.8
140°	767.5	768.8	770.2	771.5	772.8	773.6	773.8	774.0	774.2	774.4	774.2
142.5°	805.3	806.3	807.2	808.2	809.1	809.7	809.9	810.1	810.3	810.5	810.1
145°	841.4	842.2	842.9	843.7	844.5	844.9	845.1	845.3	845.5	845.7	845.1
147.5°	874.1	875.2	876.4	877.5	878.6	879.2	879.2	879.2	879.2	879.2	878.6
150°	905.0	906.2	907.3	908.4	909.6	910.2	910.2	910.2	910.2	910.2	909.8
152.5°	935.1	936.0	937.0	938.0	938.9	939.2	938.8	938.4	938.0	937.7	937.5
155°	961.7	963.1	964.4	965.7	967.1	967.4	966.6	965.8	965.1	964.3	964.1
157.5°	986.7	987.8	988.9	990.1	991.2	991.4	990.7	989.9	989.1	988.4	988.2
160°	1010.7	1011.5	1012.2	1013.0	1013.8	1013.7	1012.7	1011.8	1010.8	1009.9	1009.9
162.5°	1028.8	1030.1	1031.4	1032.8	1034.1	1034.3	1033.4	1032.4	1031.4	1030.5	1030.3
165°	1046.0	1047.3	1048.6	1050.0	1051.3	1051.4	1050.3	1049.1	1048.0	1046.8	1046.8
167.5°	1061.4	1062.6	1063.7	1064.9	1066.0	1066.0	1064.9	1063.7	1062.6	1061.4	1061.2
170°	1072.6	1073.9	1075.3	1076.6	1077.9	1077.9	1076.6	1075.3	1073.9	1072.6	1072.6
172.5°	1081.2	1082.5	1083.9	1085.2	1086.5	1086.6	1085.5	1084.3	1083.2	1082.1	1082.1
175°	1087.2	1088.5	1089.9	1091.2	1092.6	1092.7	1091.5	1090.4	1089.2	1088.1	1088.1
177.5°	1090.6	1092.0	1093.3	1094.7	1096.0	1096.1	1094.9	1093.8	1092.7	1091.5	1091.5
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5
2.5°	1669.5	1667.9	1652.4	1637.0	1621.8	1606.7	1595.4	1584.1	1565.1	1546.1	1534.1
5°	1773.0	1760.8	1736.3	1711.8	1675.0	1638.3	1607.3	1576.4	1537.0	1497.7	1464.8
7.5°	1830.7	1820.7	1791.1	1761.4	1712.7	1664.0	1615.7	1567.3	1509.3	1451.3	1401.6
10°	1832.3	1840.7	1816.2	1791.7	1736.9	1682.1	1616.3	1550.6	1472.6	1394.6	1330.4
12.5°	1774.9	1811.0	1805.9	1800.7	1745.0	1689.2	1609.2	1529.3	1433.6	1337.8	1257.5
15°	1667.6	1737.5	1758.2	1778.8	1732.7	1686.6	1595.7	1504.8	1392.3	1279.8	1187.6
17.5°	1529.3	1627.3	1681.8	1736.3	1702.7	1669.2	1569.6	1470.0	1343.3	1216.6	1116.4
20°	1365.5	1493.8	1579.3	1664.7	1652.4	1640.2	1537.4	1434.5	1297.8	1161.2	1052.5
22.5°	1203.7	1339.1	1457.1	1575.1	1587.6	1600.2	1496.4	1392.6	1243.0	1093.5	982.9
25°	1064.1	1201.8	1342.3	1482.9	1511.2	1539.6	1441.0	1342.3	1187.3	1032.2	922.3
27.5°	931.0	1061.9	1216.6	1371.3	1422.9	1474.5	1384.2	1294.0	1132.5	971.0	861.4
30°	822.4	939.4	1097.3	1255.3	1327.2	1399.1	1316.2	1233.4	1073.2	912.9	805.6
32.5°	721.1	825.9	984.5	1143.1	1226.6	1310.1	1238.5	1167.0	1012.9	858.8	752.7
35°	641.2	735.0	883.0	1030.9	1124.4	1217.9	1159.2	1100.6	950.0	799.5	699.2
37.5°	572.5	651.2	790.1	929.1	1028.3	1127.6	1078.6	1029.6	888.1	746.6	651.8
40°	515.8	579.0	708.2	837.5	934.9	1032.2	990.3	948.4	821.7	695.0	606.4
42.5°	467.1	521.6	637.6	753.7	843.0	932.3	904.6	876.8	762.1	647.3	565.1
45°	424.2	470.0	572.2	674.4	756.6	838.8	816.9	795.0	696.0	597.0	521.6
47.5°	386.2	425.5	516.8	608.0	681.8	755.6	735.3	715.0	633.1	551.2	482.6
50°	351.4	384.9	461.0	537.1	603.5	669.9	653.1	636.3	568.7	501.0	441.6
52.5°	318.5	346.2	414.6	482.9	536.4	589.9	577.0	564.1	511.9	459.7	405.9
55°	287.2	312.7	370.4	428.1	473.9	519.7	506.8	493.9	453.2	412.6	365.2
57.5°	258.9	281.1	327.8	374.6	411.0	447.4	441.3	435.2	401.3	367.5	328.5
60°	228.9	248.9	289.2	329.5	358.8	388.1	381.0	373.9	349.8	325.6	292.1
62.5°	202.1	219.9	252.1	284.3	308.2	332.0	326.9	321.7	303.3	285.0	257.2
65°	174.1	191.5	217.6	243.7	262.4	281.1	276.6	272.1	258.2	244.4	222.1
67.5°	148.6	163.1	185.7	208.2	220.8	233.4	230.8	228.2	217.6	207.0	189.6
70°	122.8	135.4	154.1	172.8	181.5	190.2	191.2	192.1	182.5	172.8	159.9
72.5°	97.0	107.0	124.4	141.8	148.6	155.4	155.1	154.7	148.9	143.1	131.5
75°	74.5	81.9	95.4	109.0	114.8	120.6	121.9	123.1	117.7	112.2	105.7
77.5°	53.5	58.7	69.0	79.3	85.7	92.2	92.8	93.5	90.9	88.3	82.2
80°	37.7	39.3	45.8	52.2	59.0	65.8	66.7	67.7	65.1	62.5	58.7
82.5°	26.1	27.1	29.3	31.6	37.1	42.6	43.8	45.1	43.8	42.6	38.4
85°	15.8	16.1	17.1	18.1	20.6	23.2	24.5	25.8	25.1	24.5	22.2
87.5°	7.1	7.1	7.4	7.7	8.4	9.0	10.6	12.2	11.3	10.3	9.3
90°	15.7	13.2	10.7	8.5	6.6	4.7	2.8	0.9	2.8	4.7	6.6
92.5°	33.8	32.7	31.5	30.4	29.2	28.1	26.9	25.8	26.9	28.1	29.2
95°	60.5	59.0	57.5	56.1	54.7	53.4	52.0	50.7	52.0	53.4	54.7
97.5°	90.5	89.4	88.2	87.2	86.2	85.3	84.3	83.4	84.3	85.3	86.2
100°	124.4	123.5	122.5	121.5	120.3	119.2	118.0	116.9	118.0	119.2	120.3
102.5°	161.5	160.1	158.8	157.9	157.3	156.7	156.1	155.6	156.1	156.7	157.3
105°	199.4	197.7	196.0	194.9	194.5	194.1	193.8	193.4	193.8	194.1	194.5
107.5°	240.8	240.1	239.3	238.8	238.6	238.5	238.3	238.1	238.3	238.5	238.6
110°	282.0	281.6	281.2	280.9	280.5	280.1	279.7	279.3	279.7	280.1	280.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	323.2	323.2	323.2	323.1	322.9	322.7	322.5	322.3	322.5	322.7	322.9
115°	366.9	367.3	367.7	367.6	367.0	366.4	365.8	365.3	365.8	366.4	367.0
117.5°	409.0	409.4	409.8	409.9	409.7	409.5	409.3	409.1	409.3	409.5	409.7
120°	452.3	453.2	454.2	454.1	452.9	451.8	450.6	449.5	450.6	451.8	452.9
122.5°	494.1	494.5	494.9	494.7	493.9	493.1	492.4	491.6	492.4	493.1	493.9
125°	536.2	536.6	537.0	536.9	536.3	535.7	535.2	534.6	535.2	535.7	536.3
127.5°	578.3	578.7	579.1	578.7	577.6	576.4	575.3	574.1	575.3	576.4	577.6
130°	619.1	619.7	620.2	619.8	618.2	616.7	615.2	613.7	615.2	616.7	618.2
132.5°	659.1	659.5	659.9	659.3	657.8	656.2	654.7	653.2	654.7	656.2	657.8
135°	698.3	698.5	698.6	698.2	697.0	695.9	694.7	693.6	694.7	695.9	697.0
137.5°	736.3	735.7	735.1	734.4	733.4	732.4	731.5	730.5	731.5	732.4	733.4
140°	774.0	773.8	773.6	773.0	772.1	771.1	770.2	769.2	770.2	771.1	772.1
142.5°	809.7	809.3	808.9	808.3	807.3	806.4	805.4	804.5	805.4	806.4	807.3
145°	844.6	844.0	843.4	842.9	842.6	842.2	841.8	841.4	841.8	842.2	842.6
147.5°	878.1	877.5	876.9	876.3	875.5	874.7	874.0	873.2	874.0	874.7	875.5
150°	909.4	909.0	908.6	908.3	907.9	907.5	907.1	906.7	907.1	907.5	907.9
152.5°	937.3	937.1	936.9	936.5	935.9	935.4	934.8	934.2	934.8	935.4	935.9
155°	963.9	963.7	963.5	963.4	963.4	963.4	963.4	963.4	963.4	963.4	963.4
157.5°	988.0	987.8	987.6	987.6	987.8	988.0	988.2	988.4	988.2	988.0	987.8
160°	1009.9	1009.9	1009.9	1010.1	1010.4	1010.8	1011.2	1011.6	1011.2	1010.8	1010.4
162.5°	1030.1	1029.9	1029.7	1029.9	1030.5	1031.1	1031.6	1032.2	1031.6	1031.1	1030.5
165°	1046.8	1046.8	1046.8	1047.1	1047.7	1048.2	1048.8	1049.4	1048.8	1048.2	1047.7
167.5°	1061.0	1060.9	1060.7	1060.9	1061.7	1062.5	1063.2	1064.0	1063.2	1062.5	1061.7
170°	1072.6	1072.6	1072.6	1073.0	1073.7	1074.5	1075.3	1076.0	1075.3	1074.5	1073.7
172.5°	1082.1	1082.1	1082.1	1082.4	1083.2	1084.0	1084.7	1085.5	1084.7	1084.0	1083.2
175°	1088.1	1088.1	1088.1	1088.5	1089.2	1090.0	1090.7	1091.5	1090.7	1090.0	1089.2
177.5°	1091.5	1091.5	1091.5	1091.9	1092.7	1093.4	1094.2	1094.9	1094.2	1093.4	1092.7
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5	1572.5
2.5°	1522.2	1503.8	1485.5	1472.2	1459.0	1442.6	1426.1	1425.5	1424.9	1412.6	1400.4
5°	1431.9	1400.0	1368.1	1336.8	1305.6	1274.3	1243.0	1235.9	1228.9	1218.2	1207.6
7.5°	1352.0	1301.1	1250.1	1210.2	1170.2	1138.9	1107.6	1086.4	1065.1	1048.7	1032.2
10°	1266.3	1203.1	1139.9	1091.5	1043.2	1009.3	975.5	951.0	926.5	914.9	903.3
12.5°	1177.3	1108.6	1039.9	992.6	945.2	904.6	863.9	841.7	819.5	803.3	787.2
15°	1095.4	1021.6	947.8	897.5	847.2	809.1	771.1	748.9	726.6	710.5	694.4
17.5°	1016.1	941.6	867.2	816.2	765.3	730.8	696.3	674.7	653.1	643.1	633.1
20°	943.9	868.8	793.7	745.6	697.6	663.7	629.9	618.3	606.7	597.3	588.0
22.5°	872.3	800.1	727.9	681.8	635.7	611.2	586.7	577.4	568.0	560.9	553.8
25°	812.4	740.5	668.6	628.3	588.0	569.0	550.0	543.8	537.7	530.6	523.5
27.5°	751.8	683.4	615.1	582.8	550.6	535.1	519.7	511.9	504.2	498.4	492.6
30°	698.2	635.1	571.9	545.1	518.4	504.8	491.3	482.9	474.5	469.0	463.6
32.5°	646.7	590.6	534.5	511.6	488.7	475.5	462.3	454.2	446.2	439.7	433.3
35°	599.0	550.3	501.6	480.6	459.7	446.5	433.3	425.2	417.1	410.7	404.2
37.5°	557.0	512.9	468.7	449.1	429.4	417.8	406.2	397.8	389.4	382.6	375.9
40°	517.7	478.7	439.7	420.7	401.7	389.1	376.5	369.1	361.7	355.6	349.4
42.5°	482.9	447.1	411.3	392.6	373.9	362.0	350.1	341.4	332.7	329.1	325.6
45°	446.2	414.6	383.0	364.9	346.9	334.3	321.7	314.3	306.9	303.7	300.4
47.5°	413.9	384.6	355.2	337.5	319.8	308.5	297.2	291.4	285.6	281.1	276.6
50°	382.3	354.0	325.6	308.5	291.4	281.7	272.1	265.0	257.9	254.7	251.4
52.5°	352.0	326.2	300.4	283.0	265.6	256.3	246.9	240.8	234.7	227.9	221.1
55°	317.9	295.3	272.7	257.2	241.8	232.1	222.4	215.3	208.2	201.2	194.1
57.5°	289.5	267.2	245.0	231.1	217.3	207.9	198.6	190.8	183.1	177.3	171.5
60°	258.5	239.2	219.9	206.3	192.8	183.7	174.7	167.3	159.9	157.0	154.1
62.5°	229.5	211.5	193.4	181.5	169.6	160.9	152.2	147.3	142.5	140.6	138.6
65°	199.9	184.4	168.9	158.0	147.0	139.6	132.2	129.9	127.7	126.0	124.4
67.5°	172.1	158.9	145.7	136.0	126.4	121.2	116.1	113.5	110.9	109.0	107.0
70°	147.0	135.4	123.8	115.4	107.0	102.2	97.4	95.1	92.8	89.3	85.7
72.5°	119.9	110.9	101.9	95.4	89.0	84.8	80.6	76.1	71.6	68.3	65.1
75°	99.3	90.3	81.2	75.1	69.0	64.2	59.3	57.7	56.1	55.1	54.2
77.5°	76.1	68.3	60.6	55.8	50.9	48.7	46.4	45.5	44.5	44.2	43.8
80°	54.8	48.4	41.9	39.3	36.7	36.1	35.5	34.8	34.2	33.8	33.5
82.5°	34.2	30.9	27.7	27.1	26.4	26.1	25.8	25.5	25.1	24.8	24.5
85°	20.0	18.7	17.4	17.1	16.8	16.4	16.1	16.1	16.1	16.1	16.1
87.5°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.1	7.7
90°	8.5	10.7	13.2	15.7	18.1	20.6	21.4	22.2	22.9	23.7	24.3
92.5°	30.4	31.5	32.7	33.8	35.0	36.1	36.7	37.2	37.8	38.4	38.5
95°	56.1	57.5	59.0	60.5	62.1	63.6	64.4	65.1	65.9	66.7	67.0
97.5°	87.2	88.2	89.4	90.5	91.7	92.8	93.8	94.7	95.7	96.6	97.0
100°	121.5	122.5	123.5	124.4	125.4	126.3	126.9	127.5	128.1	128.6	129.1
102.5°	157.9	158.8	160.1	161.5	162.8	164.2	164.7	165.3	165.9	166.4	166.6
105°	194.9	196.0	197.7	199.4	201.1	202.8	202.8	202.8	202.8	202.8	203.0
107.5°	238.8	239.3	240.1	240.8	241.6	242.4	242.9	243.5	244.1	244.7	244.8
110°	280.9	281.2	281.6	282.0	282.4	282.8	283.5	284.3	285.1	285.8	286.0



TEST NUMBER: P832189

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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	323.1	323.2	323.2	323.2	323.2	323.2	324.1	325.1	326.0	327.0	327.5
115°	367.6	367.7	367.3	366.9	366.5	366.1	366.3	366.5	366.7	366.9	366.9
117.5°	409.9	409.8	409.4	409.0	408.6	408.2	408.2	408.2	408.2	408.2	408.0
120°	454.1	454.2	453.2	452.3	451.3	450.4	450.2	450.0	449.8	449.6	449.3
122.5°	494.7	494.9	494.5	494.1	493.7	493.3	492.8	492.2	491.6	491.0	490.5
125°	536.9	537.0	536.6	536.2	535.8	535.4	534.7	533.9	533.1	532.4	531.6
127.5°	578.7	579.1	578.7	578.3	577.9	577.6	576.4	575.3	574.1	573.0	572.0
130°	619.8	620.2	619.7	619.1	618.5	617.9	617.2	616.4	615.7	614.9	613.8
132.5°	659.3	659.9	659.5	659.1	658.7	658.3	657.4	656.4	655.5	654.5	653.6
135°	698.2	698.6	698.5	698.3	698.1	697.9	697.1	696.3	695.6	694.8	694.2
137.5°	734.4	735.1	735.7	736.3	736.8	737.4	736.5	735.5	734.5	733.6	732.8
140°	773.0	773.6	773.8	774.0	774.2	774.4	774.2	774.0	773.8	773.6	772.8
142.5°	808.3	808.9	809.3	809.7	810.1	810.5	810.3	810.1	809.9	809.7	809.1
145°	842.9	843.4	844.0	844.6	845.1	845.7	845.5	845.3	845.1	844.9	844.5
147.5°	876.3	876.9	877.5	878.1	878.6	879.2	879.2	879.2	879.2	879.2	878.6
150°	908.3	908.6	909.0	909.4	909.8	910.2	910.2	910.2	910.2	910.2	909.6
152.5°	936.5	936.9	937.1	937.3	937.5	937.7	938.0	938.4	938.8	939.2	938.9
155°	963.4	963.5	963.7	963.9	964.1	964.3	965.1	965.8	966.6	967.4	967.1
157.5°	987.6	987.6	987.8	988.0	988.2	988.4	989.1	989.9	990.7	991.4	991.2
160°	1010.1	1009.9	1009.9	1009.9	1009.9	1009.9	1010.8	1011.8	1012.7	1013.7	1013.8
162.5°	1029.9	1029.7	1029.9	1030.1	1030.3	1030.5	1031.4	1032.4	1033.4	1034.3	1034.1
165°	1047.1	1046.8	1046.8	1046.8	1046.8	1046.8	1048.0	1049.1	1050.3	1051.4	1051.3
167.5°	1060.9	1060.7	1060.9	1061.0	1061.2	1061.4	1062.6	1063.7	1064.9	1066.0	1066.0
170°	1073.0	1072.6	1072.6	1072.6	1072.6	1072.6	1073.9	1075.3	1076.6	1077.9	1077.9
172.5°	1082.4	1082.1	1082.1	1082.1	1082.1	1082.1	1083.2	1084.3	1085.5	1086.6	1086.5
175°	1088.5	1088.1	1088.1	1088.1	1088.1	1088.1	1089.2	1090.4	1091.5	1092.7	1092.6
177.5°	1091.9	1091.5	1091.5	1091.5	1091.5	1091.5	1092.7	1093.8	1094.9	1096.1	1096.0
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1



TEST NUMBER: P832189

CATALOG NUMBER: S123RDIP-S560D1025U935-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1572.5	1572.5	1572.5	1572.5
2.5°	1397.1	1393.9	1392.6	1391.3
5°	1197.6	1187.6	1185.3	1183.1
7.5°	1028.0	1023.8	1010.0	996.1
10°	890.4	877.5	871.7	865.9
12.5°	775.3	763.4	761.4	759.5
15°	686.0	677.6	674.7	671.8
17.5°	627.3	621.5	618.0	614.4
20°	583.8	579.6	577.0	574.5
22.5°	550.6	547.4	545.4	543.5
25°	518.7	513.8	512.2	510.6
27.5°	488.4	484.2	482.6	481.0
30°	460.0	456.5	454.2	452.0
32.5°	429.1	424.9	423.6	422.3
35°	401.7	399.1	397.8	396.5
37.5°	372.7	369.4	367.5	365.6
40°	347.8	346.2	345.3	344.3
42.5°	322.7	319.8	319.5	319.1
45°	297.5	294.6	294.0	293.4
47.5°	274.0	271.4	271.1	270.8
50°	247.9	244.4	241.8	239.2
52.5°	217.9	214.7	212.4	210.2
55°	190.5	187.0	185.0	183.1
57.5°	169.9	168.3	167.3	166.3
60°	153.1	152.2	151.5	150.9
62.5°	137.6	136.7	136.7	136.7
65°	123.5	122.5	121.5	120.6
67.5°	105.1	103.2	102.8	102.5
70°	82.8	79.9	79.6	79.3
72.5°	64.8	64.5	63.8	63.2
75°	53.5	52.9	52.9	52.9
77.5°	43.2	42.6	42.6	42.6
80°	33.2	32.9	33.2	33.5
82.5°	24.5	24.5	24.2	23.9
85°	15.8	15.5	15.5	15.5
87.5°	7.7	7.7	7.7	7.7
90°	24.6	25.0	25.4	25.8
92.5°	38.1	37.7	37.3	37.0
95°	67.0	67.0	67.0	67.0
97.5°	96.8	96.6	96.4	96.3
100°	129.5	129.9	130.3	130.6
102.5°	166.4	166.3	166.1	165.9
105°	203.4	203.8	204.2	204.6
107.5°	244.7	244.5	244.3	244.1
110°	285.6	285.2	284.9	284.5



TEST NUMBER: P832189

CATALOG NUMBER: S123RDIP-S560D1025U935-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	327.5	327.5	327.5	327.5
115°	366.7	366.5	366.3	366.1
117.5°	407.4	406.8	406.2	405.7
120°	448.9	448.5	448.2	447.8
122.5°	489.9	489.3	488.7	488.2
125°	530.9	530.1	529.3	528.6
127.5°	571.3	570.5	569.7	569.0
130°	612.5	611.2	609.8	608.5
132.5°	652.6	651.7	650.7	649.7
135°	693.9	693.5	693.1	692.7
137.5°	732.3	731.7	731.1	730.5
140°	771.5	770.2	768.8	767.5
142.5°	808.2	807.2	806.3	805.3
145°	843.7	842.9	842.2	841.4
147.5°	877.5	876.4	875.2	874.1
150°	908.4	907.3	906.2	905.0
152.5°	938.0	937.0	936.0	935.1
155°	965.7	964.4	963.1	961.7
157.5°	990.1	988.9	987.8	986.7
160°	1013.0	1012.2	1011.5	1010.7
162.5°	1032.8	1031.4	1030.1	1028.8
165°	1050.0	1048.6	1047.3	1046.0
167.5°	1064.9	1063.7	1062.6	1061.4
170°	1076.6	1075.3	1073.9	1072.6
172.5°	1085.2	1083.9	1082.5	1081.2
175°	1091.2	1089.9	1088.5	1087.2
177.5°	1094.7	1093.3	1092.0	1090.6
180°	1094.1	1094.1	1094.1	1094.1

TEST NUMBER: P832189

CATALOG NUMBER: S123RDIP-S560D1025U935-4F0-1E-UDD-G1

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	9.64	10.38	10.68	11.43	12.83	14.30	15.05	15.35	16.09	17.49
	3H	10.86	11.52	11.91	12.57	13.99	15.80	16.46	16.85	17.51	18.93
	4H	11.23	11.86	12.30	12.91	14.34	16.28	16.91	17.35	17.96	19.39
	6H	11.51	12.09	12.58	13.14	14.58	16.59	17.17	17.66	18.23	19.66
	8H	11.59	12.14	12.67	13.22	14.65	16.67	17.22	17.75	18.29	19.72
	12H	11.64	12.17	12.73	13.23	14.69	16.70	17.22	17.78	18.28	19.74
4H	2H	10.35	10.98	11.42	12.03	13.46	14.29	14.92	15.36	15.97	17.40
	3H	11.72	12.24	12.79	13.32	14.76	15.94	16.46	17.02	17.54	18.98
	4H	12.17	12.65	13.25	13.72	15.18	16.54	17.02	17.63	18.09	19.55
	6H	12.53	12.94	13.62	14.03	15.49	16.98	17.39	18.07	18.48	19.94
	8H	12.65	13.04	13.74	14.12	15.59	17.11	17.49	18.20	18.57	20.05
	12H	12.73	13.07	13.83	14.17	15.65	17.16	17.51	18.27	18.61	20.09
8H	4H	12.48	12.86	13.57	13.94	15.41	16.50	16.89	17.60	17.97	19.44
	6H	12.94	13.25	14.05	14.38	15.85	17.00	17.31	18.11	18.44	19.91
	8H	13.13	13.40	14.25	14.51	16.00	17.18	17.46	18.30	18.57	20.06
	12H	13.27	13.51	14.39	14.61	16.14	17.30	17.54	18.42	18.64	20.17
12H	4H	12.48	12.83	13.59	13.93	15.40	16.45	16.80	17.56	17.90	19.37
	6H	12.99	13.27	14.11	14.38	15.87	16.97	17.25	18.09	18.36	19.85
	8H	13.21	13.45	14.33	14.56	16.08	17.16	17.40	18.28	18.51	20.04