

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: P831486

Luminaire Tested: S123DIP-S560D1195U850-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831486
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-5)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D1195U850-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

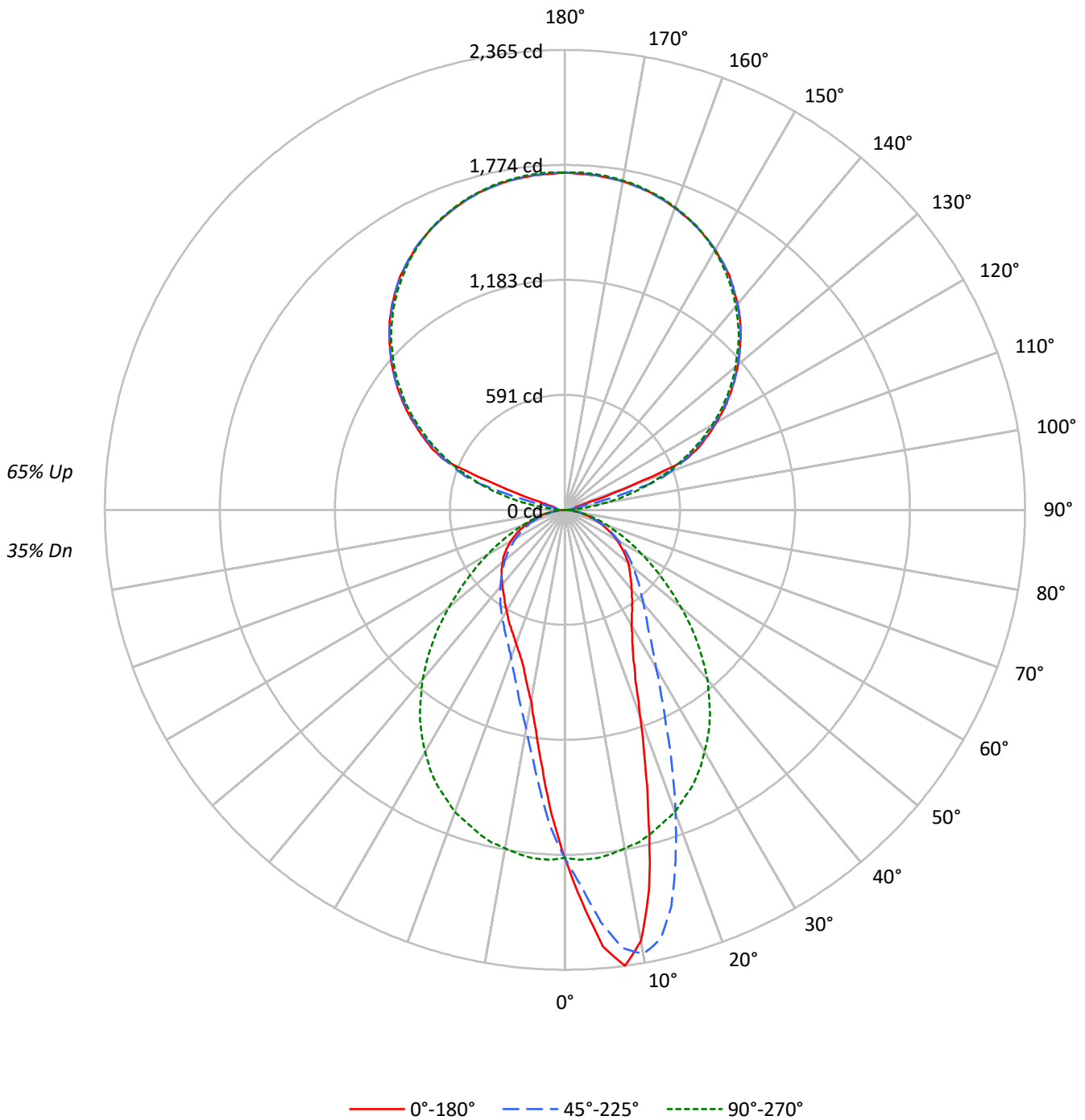
Lumens per Lamp: N/A
Luminaire Lumens: 8167.8 lumens
Efficiency: N/A
Efficacy: 161.4 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: Semi-Indirect

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	0
RCR																		
0	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	35
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	34	33	31	26
3	79	70	63	58	72	64	58	53	52	48	44	41	38	36	31	29	27	23
4	73	63	55	49	66	57	51	46	46	42	38	37	33	31	28	26	24	20
5	67	56	48	43	60	51	44	39	42	37	33	33	30	27	25	23	21	18
6	62	50	43	37	56	46	39	34	38	33	29	30	27	24	23	21	19	16
7	57	45	38	33	52	42	35	30	34	29	26	28	24	21	21	19	17	14
8	53	41	34	29	48	38	31	27	31	27	23	25	22	19	20	17	15	13
9	49	38	31	26	45	35	28	24	29	24	21	23	20	17	18	16	14	12
10	46	35	28	23	42	32	26	22	27	22	19	22	18	16	17	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	19268	19268	19268	19268	19268
5°	24368	23000	19440	15666	14397
10°	24604	25349	19311	12489	10912
15°	18532	23534	19179	10575	9229
20°	12912	19045	18935	9249	8383
25°	9846	14645	18517	8508	7862
30°	8518	11635	17851	7986	7444
35°	7903	9824	17082	7608	7150
40°	7481	8812	16002	7248	7050
45°	7232	8156	14630	6967	7005
50°	7109	7636	13006	6712	6970
55°	6844	7257	11410	6469	7000
60°	6598	6848	9836	6241	6885
65°	6199	6464	8484	5998	6749
70°	5725	5973	7216	5596	6351
75°	5182	5357	6184	5199	5802
80°	4271	4686	4891	4531	4891
85°	3384	3792	3594	3841	3903

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 16704 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.2	2.1
10°-20°	421.0	5.2
20°-30°	498.5	6.1
30°-40°	501.2	6.1
40°-50°	459.9	5.6
50°-60°	379.6	4.6
60°-70°	268.5	3.3
70°-80°	143.3	1.8
80°-90°	39.8	0.5
90°-100°	61.1	0.7
100°-110°	295.6	3.6
110°-120°	724.5	8.9
120°-130°	919.8	11.3
130°-140°	982.6	12.0
140°-150°	918.9	11.2
150°-160°	741.1	9.1
160°-170°	478.3	5.9
170°-180°	164.8	2.0
0°-30°	1088.7	13.3
0°-40°	1590.0	19.5
0°-60°	2429.4	29.7
0°-90°	2881.0	35.3
90°-120°	1081.2	13.2
90°-150°	3902.5	47.8
90°-180°	5287.0	64.7
0°-180°	8167.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1790	1790	1790	1790	1790	
5°	2255	2129	1799	1450	1332	215
15°	1663	2112	1721	949	828	459
25°	829	1233	1559	716	662	391
35°	601	748	1300	579	544	378
45°	475	536	961	458	460	368
55°	365	387	608	345	373	326
65°	243	254	333	236	265	242
75°	125	129	149	125	140	131
85°	27	31	29	31	32	31
90°	39	31	1	31	39	18
95°	49	40	79	40	49	41
105°	57	282	384	282	57	118
115°	758	740	720	740	758	713
125°	1036	1031	1015	1031	1036	926
135°	1277	1277	1264	1277	1277	985
145°	1473	1470	1458	1470	1473	920
155°	1604	1605	1607	1605	1604	740
165°	1690	1689	1694	1689	1690	478
175°	1728	1729	1734	1729	1728	164
180°	1734	1734	1734	1734	1734	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1
2.5°	2017.7	2015.6	2013.5	2003.1	1992.7	1987.8	1982.8	1967.8	1952.9	1936.3	1919.6
5°	2255.2	2261.0	2266.9	2260.2	2253.6	2233.2	2212.9	2185.9	2158.9	2128.6	2098.2
7.5°	2364.9	2368.2	2371.5	2367.4	2363.2	2357.8	2352.4	2328.3	2304.2	2273.1	2241.9
10°	2251.1	2258.5	2266.0	2282.2	2298.4	2316.7	2335.0	2331.6	2328.3	2319.2	2310.0
12.5°	2001.0	2010.2	2019.3	2051.7	2084.1	2125.6	2167.2	2202.9	2238.6	2263.5	2288.5
15°	1663.0	1688.3	1713.6	1743.1	1772.6	1833.7	1894.7	1969.9	2045.1	2111.9	2178.8
17.5°	1369.7	1379.3	1388.9	1420.4	1452.0	1528.8	1605.7	1692.5	1779.3	1890.2	2001.0
20°	1127.2	1135.9	1144.6	1186.2	1227.7	1287.9	1348.2	1445.8	1543.4	1662.6	1781.8
22.5°	946.9	960.7	974.4	997.6	1020.9	1078.6	1136.3	1223.1	1309.9	1441.6	1573.3
25°	829.0	839.0	848.9	863.0	877.2	923.3	969.4	1040.8	1112.2	1233.1	1354.0
27.5°	748.4	752.6	756.7	770.8	785.0	814.9	844.8	906.2	967.7	1070.3	1172.9
30°	685.3	688.2	691.1	703.6	716.0	736.4	756.7	801.2	845.6	936.1	1026.7
32.5°	641.3	643.3	645.4	655.0	664.5	679.1	693.6	726.0	758.4	833.1	907.9
35°	601.4	602.6	603.9	610.9	618.0	628.8	639.6	664.1	688.6	747.6	806.6
37.5°	566.5	568.2	569.8	574.0	578.1	587.7	597.2	616.8	636.3	681.6	726.8
40°	532.4	535.4	538.3	541.2	544.1	552.0	559.9	574.8	589.8	627.1	664.5
42.5°	503.4	506.3	509.2	510.4	511.7	516.3	520.8	534.5	548.2	576.1	603.9
45°	475.1	476.4	477.6	478.9	480.1	483.9	487.6	499.6	511.7	535.8	559.9
47.5°	449.4	449.4	449.4	450.2	451.0	454.4	457.7	466.4	475.1	493.8	512.5
50°	424.5	424.5	424.5	423.2	422.0	424.0	426.1	432.8	439.4	456.0	472.6
52.5°	394.6	394.6	394.6	395.0	395.4	395.4	395.4	401.2	407.0	422.0	436.9
55°	364.7	366.3	368.0	366.7	365.5	366.3	367.1	370.9	374.6	386.7	398.7
57.5°	334.8	335.6	336.4	336.0	335.6	336.0	336.4	339.7	343.1	352.2	361.3
60°	306.5	306.5	306.5	305.7	304.9	305.7	306.5	308.2	309.8	318.1	326.4
62.5°	274.9	275.4	275.8	276.2	276.6	275.8	274.9	277.0	279.1	285.3	291.6
65°	243.4	243.8	244.2	245.5	246.7	245.9	245.0	247.1	249.2	253.8	258.3
67.5°	215.1	214.3	213.5	213.9	214.3	215.6	216.8	217.2	217.6	222.6	227.6
70°	181.9	182.7	183.6	183.2	182.7	183.2	183.6	184.8	186.1	189.8	193.5
72.5°	152.0	152.4	152.8	152.8	152.8	153.7	154.5	155.7	157.0	159.1	161.1
75°	124.6	124.6	124.6	125.4	126.3	126.7	127.1	127.1	127.1	128.8	130.4
77.5°	94.7	96.8	98.8	98.4	98.0	98.8	99.7	100.9	102.2	103.0	103.8
80°	68.9	68.9	68.9	69.4	69.8	71.0	72.3	73.1	73.9	75.6	77.3
82.5°	44.0	44.4	44.9	46.1	47.3	48.2	49.0	50.3	51.5	51.5	51.5
85°	27.4	26.6	25.8	26.6	27.4	28.2	29.1	29.5	29.9	30.7	31.6
87.5°	13.3	13.3	13.3	13.3	13.3	13.7	14.1	14.1	14.1	14.1	14.1
90°	38.7	38.1	37.5	36.9	36.4	35.5	34.4	33.2	32.1	30.9	27.2
92.5°	43.8	43.5	43.2	42.9	42.7	41.5	39.5	37.5	35.5	33.5	30.9
95°	49.0	49.0	49.0	49.0	49.0	48.0	46.0	44.0	41.9	39.9	36.8
97.5°	52.8	52.5	52.3	52.0	51.7	50.4	48.1	45.8	43.5	41.2	55.8
100°	54.1	53.8	53.5	53.3	53.0	51.7	49.4	47.1	44.8	42.5	87.2
102.5°	55.4	54.8	54.3	53.7	53.1	57.6	67.0	76.4	85.9	95.3	145.2
105°	56.7	56.1	55.5	55.0	54.4	79.5	130.1	180.8	231.5	282.2	307.9
107.5°	134.0	171.5	209.0	246.5	284.0	324.8	368.9	413.0	457.1	501.2	496.9
110°	354.3	395.3	436.2	477.2	518.1	543.3	552.7	562.2	571.6	581.1	577.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	671.3	671.9	672.4	673.0	673.6	672.6	670.0	667.4	664.8	662.3	659.1
115°	757.6	756.5	755.3	754.2	753.0	751.0	748.2	745.3	742.4	739.6	737.0
117.5°	827.2	826.9	826.6	826.3	826.0	824.7	822.5	820.2	817.9	815.6	814.2
120°	899.3	899.3	899.3	899.3	899.3	898.2	895.9	893.6	891.3	889.0	888.2
122.5°	970.2	969.9	969.6	969.3	969.1	968.2	966.8	965.3	963.9	962.5	961.3
125°	1035.9	1035.3	1034.8	1034.2	1033.6	1033.0	1032.5	1031.9	1031.3	1030.8	1029.6
127.5°	1100.3	1100.9	1101.5	1102.1	1102.6	1102.5	1101.6	1100.8	1099.9	1099.0	1097.6
130°	1162.2	1162.8	1163.3	1163.9	1164.5	1164.2	1163.0	1161.9	1160.7	1159.6	1158.5
132.5°	1218.9	1219.7	1220.6	1221.4	1222.3	1222.2	1221.0	1219.9	1218.7	1217.6	1216.7
135°	1276.9	1277.7	1278.6	1279.4	1280.3	1280.3	1279.4	1278.6	1277.7	1276.9	1275.7
137.5°	1332.3	1332.8	1333.4	1334.0	1334.5	1334.1	1332.7	1331.3	1329.8	1328.4	1327.8
140°	1381.2	1381.8	1382.4	1382.9	1383.5	1383.2	1382.1	1380.9	1379.8	1378.6	1377.8
142.5°	1426.3	1427.2	1428.0	1428.9	1429.7	1429.7	1428.9	1428.0	1427.2	1426.3	1425.5
145°	1472.7	1472.7	1472.7	1472.7	1472.7	1472.4	1471.8	1471.3	1470.7	1470.1	1469.5
147.5°	1506.2	1507.6	1509.1	1510.5	1511.9	1512.4	1511.8	1511.2	1510.6	1510.1	1509.5
150°	1544.8	1545.7	1546.6	1547.4	1548.3	1548.4	1547.9	1547.3	1546.7	1546.1	1545.6
152.5°	1575.8	1577.2	1578.6	1580.1	1581.5	1581.6	1580.5	1579.3	1578.2	1577.1	1576.8
155°	1604.1	1605.8	1607.6	1609.3	1611.0	1611.1	1609.7	1608.3	1606.8	1605.4	1605.1
157.5°	1628.6	1630.9	1633.2	1635.5	1637.8	1638.0	1636.3	1634.6	1632.9	1631.2	1631.5
160°	1651.8	1653.8	1655.8	1657.8	1659.8	1659.9	1658.2	1656.5	1654.8	1653.1	1653.4
162.5°	1673.7	1675.4	1677.1	1678.8	1680.6	1680.4	1678.4	1676.4	1674.4	1672.4	1672.7
165°	1690.4	1692.4	1694.5	1696.5	1698.5	1698.3	1696.0	1693.7	1691.4	1689.2	1689.4
167.5°	1703.3	1705.6	1707.9	1710.2	1712.5	1712.5	1710.2	1707.9	1705.6	1703.3	1703.3
170°	1714.9	1717.2	1719.5	1721.8	1724.1	1724.1	1721.8	1719.5	1717.2	1714.9	1714.9
172.5°	1721.4	1723.9	1726.5	1729.1	1731.7	1731.8	1729.5	1727.2	1724.9	1722.7	1722.4
175°	1727.8	1730.1	1732.4	1734.7	1737.0	1737.1	1735.1	1733.1	1731.1	1729.1	1728.8
177.5°	1729.1	1732.0	1734.8	1737.7	1740.5	1740.8	1738.5	1736.3	1734.0	1731.7	1731.4
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1
2.5°	1914.7	1909.7	1891.4	1873.1	1852.4	1831.6	1816.2	1800.9	1778.0	1755.2	1736.5
5°	2075.0	2051.7	2013.1	1974.5	1922.1	1869.8	1834.5	1799.2	1751.8	1704.5	1666.7
7.5°	2202.1	2162.2	2108.2	2054.2	1985.7	1917.1	1852.4	1787.6	1715.3	1643.0	1584.1
10°	2283.1	2256.1	2193.8	2131.5	2039.7	1947.9	1857.3	1766.8	1673.8	1580.7	1502.7
12.5°	2290.9	2293.4	2236.1	2178.8	2075.0	1971.1	1861.1	1751.0	1633.9	1516.8	1425.8
15°	2221.6	2264.4	2232.8	2201.2	2096.6	1991.9	1856.5	1721.1	1586.1	1451.2	1346.1
17.5°	2092.8	2184.6	2189.2	2193.8	2089.1	1984.4	1834.5	1684.6	1531.7	1378.9	1268.4
20°	1917.1	2052.5	2099.1	2145.6	2060.4	1975.3	1814.1	1653.0	1481.9	1310.8	1194.9
22.5°	1737.7	1902.2	1987.3	2072.5	2009.4	1946.2	1774.7	1603.2	1422.5	1241.8	1124.3
25°	1533.4	1712.8	1843.6	1974.5	1935.8	1897.2	1728.2	1559.1	1366.8	1174.5	1054.5
27.5°	1355.2	1537.5	1695.4	1853.2	1844.9	1836.6	1668.8	1501.0	1304.1	1107.3	991.4
30°	1196.6	1366.4	1542.9	1719.5	1739.8	1760.2	1598.2	1436.2	1238.9	1041.6	929.9
32.5°	1056.2	1204.4	1393.8	1583.2	1623.1	1663.0	1516.8	1370.6	1175.4	980.2	872.6
35°	941.1	1075.7	1265.1	1454.5	1504.3	1554.2	1427.1	1300.0	1109.8	919.5	816.9
37.5°	839.4	951.9	1136.8	1321.6	1382.6	1443.7	1329.9	1216.1	1037.9	859.7	765.4
40°	755.1	845.6	1015.5	1185.3	1255.9	1326.6	1232.7	1138.8	969.8	800.8	713.9
42.5°	684.5	765.0	919.1	1073.2	1140.9	1208.6	1129.3	1049.9	899.6	749.3	669.9
45°	624.2	688.6	828.6	968.5	1032.9	1097.3	1029.2	961.1	828.6	696.1	622.2
47.5°	567.8	623.0	742.6	862.2	919.5	976.8	923.7	870.5	758.4	646.2	579.4
50°	517.1	561.5	666.2	770.8	820.7	870.5	823.6	776.7	684.5	592.3	534.1
52.5°	473.1	509.2	596.8	684.5	727.2	770.0	729.7	689.4	616.3	543.2	492.6
55°	429.4	460.2	536.2	612.2	641.3	670.3	639.2	608.0	549.1	490.1	447.3
57.5°	388.7	416.2	478.5	540.8	563.2	585.6	557.4	529.1	484.7	440.2	404.5
60°	348.9	371.3	423.2	475.1	488.8	502.5	479.7	456.9	425.7	394.6	362.6
62.5°	311.9	332.3	370.9	409.5	418.6	427.8	410.3	392.9	369.2	345.6	320.6
65°	273.7	289.1	320.6	352.2	358.0	363.8	348.5	333.1	315.2	297.4	279.1
67.5°	238.4	249.2	274.9	300.7	301.1	301.5	289.1	276.6	266.6	256.7	242.1
70°	203.9	214.3	231.3	248.4	248.8	249.2	239.2	229.3	221.8	214.3	203.5
72.5°	168.6	176.1	189.0	201.8	201.0	200.2	194.0	187.7	181.9	176.1	168.2
75°	136.6	142.9	151.6	160.3	157.8	155.3	152.0	148.7	143.7	138.7	133.7
77.5°	107.6	111.3	116.3	121.3	119.6	118.0	115.0	112.1	108.4	104.7	102.6
80°	78.9	80.6	83.9	87.2	86.4	85.6	82.2	78.9	78.1	77.3	74.3
82.5°	53.6	55.7	56.5	57.3	56.9	56.5	54.0	51.5	50.7	49.8	49.4
85°	32.0	32.4	32.8	33.2	32.0	30.7	29.9	29.1	29.1	29.1	28.7
87.5°	14.5	15.0	15.0	15.0	14.5	14.1	13.3	12.5	12.9	13.3	13.3
90°	23.5	19.8	16.0	12.7	9.9	7.0	4.2	1.3	4.2	7.0	9.9
92.5°	28.3	25.8	23.2	22.8	24.5	26.2	27.9	29.6	27.9	26.2	24.5
95°	33.6	30.5	27.3	31.6	43.4	55.1	66.9	78.6	66.9	55.1	43.4
97.5°	70.4	85.0	99.6	110.9	119.0	127.0	135.0	143.0	135.0	127.0	119.0
100°	131.9	176.5	221.2	240.7	234.9	229.2	223.5	217.7	223.5	229.2	234.9
102.5°	195.0	244.8	294.6	317.7	314.0	310.2	306.5	302.8	306.5	310.2	314.0
105°	333.7	359.5	385.2	396.6	393.4	390.3	387.1	384.0	387.1	390.3	393.4
107.5°	492.6	488.3	484.0	480.6	478.0	475.4	472.9	470.3	472.9	475.4	478.0
110°	574.8	571.6	568.5	565.8	563.5	561.2	558.9	556.6	558.9	561.2	563.5



TEST NUMBER: P831486

CATALOG NUMBER: S123DIP-S560D1195U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	656.0	652.8	649.7	647.1	645.1	643.1	641.1	639.1	641.1	643.1	645.1
115°	734.4	731.8	729.3	727.1	725.4	723.7	722.0	720.2	722.0	723.7	725.4
117.5°	812.7	811.3	809.9	808.1	806.1	804.1	802.1	800.1	802.1	804.1	806.1
120°	887.3	886.5	885.6	883.9	881.3	878.7	876.1	873.6	876.1	878.7	881.3
122.5°	960.2	959.0	957.9	956.3	954.3	952.3	950.3	948.3	950.3	952.3	954.3
125°	1028.5	1027.3	1026.2	1024.5	1022.2	1019.9	1017.6	1015.3	1017.6	1019.9	1022.2
127.5°	1096.2	1094.8	1093.3	1091.5	1089.2	1086.9	1084.6	1082.3	1084.6	1086.9	1089.2
130°	1157.3	1156.2	1155.0	1153.3	1151.0	1148.7	1146.4	1144.1	1146.4	1148.7	1151.0
132.5°	1215.9	1215.0	1214.1	1212.6	1210.3	1208.0	1205.7	1203.4	1205.7	1208.0	1210.3
135°	1274.6	1273.4	1272.3	1270.8	1269.1	1267.4	1265.7	1264.0	1265.7	1267.4	1269.1
137.5°	1327.2	1326.7	1326.1	1324.7	1322.4	1320.1	1317.8	1315.5	1317.8	1320.1	1322.4
140°	1376.9	1376.1	1375.2	1373.9	1372.2	1370.5	1368.8	1367.0	1368.8	1370.5	1372.2
142.5°	1424.6	1423.7	1422.9	1421.6	1419.9	1418.2	1416.4	1414.7	1416.4	1418.2	1419.9
145°	1469.0	1468.4	1467.8	1466.5	1464.5	1462.5	1460.5	1458.5	1460.5	1462.5	1464.5
147.5°	1508.9	1508.3	1507.8	1506.8	1505.3	1503.9	1502.5	1501.0	1502.5	1503.9	1505.3
150°	1545.0	1544.4	1543.8	1543.1	1542.3	1541.4	1540.6	1539.7	1540.6	1541.4	1542.3
152.5°	1576.5	1576.2	1575.9	1575.6	1575.3	1575.1	1574.8	1574.5	1574.8	1575.1	1575.3
155°	1604.8	1604.5	1604.3	1604.4	1605.0	1605.5	1606.1	1606.7	1606.1	1605.5	1605.0
157.5°	1631.7	1632.0	1632.3	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5
160°	1653.7	1653.9	1654.2	1654.5	1654.8	1655.1	1655.4	1655.7	1655.4	1655.1	1654.8
162.5°	1673.0	1673.3	1673.5	1674.1	1675.0	1675.8	1676.7	1677.6	1676.7	1675.8	1675.0
165°	1689.7	1690.0	1690.3	1690.9	1691.7	1692.6	1693.4	1694.3	1693.4	1692.6	1691.7
167.5°	1703.3	1703.3	1703.3	1703.9	1705.0	1706.2	1707.3	1708.5	1707.3	1706.2	1705.0
170°	1714.9	1714.9	1714.9	1715.5	1716.6	1717.8	1718.9	1720.1	1718.9	1717.8	1716.6
172.5°	1722.1	1721.8	1721.5	1722.1	1723.5	1724.9	1726.4	1727.8	1726.4	1724.9	1723.5
175°	1728.5	1728.2	1728.0	1728.5	1730.0	1731.4	1732.8	1734.2	1732.8	1731.4	1730.0
177.5°	1731.1	1730.8	1730.5	1731.1	1732.5	1734.0	1735.4	1736.8	1735.4	1734.0	1732.5
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831486

CATALOG NUMBER: S123DIP-S560D1195U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1	1790.1
2.5°	1717.8	1701.6	1685.4	1672.9	1660.5	1639.3	1618.1	1613.1	1608.1	1601.1	1594.0
5°	1628.9	1589.0	1549.2	1513.5	1477.7	1449.9	1422.1	1403.8	1385.5	1372.2	1359.0
7.5°	1525.1	1465.3	1405.5	1363.1	1320.7	1280.5	1240.2	1227.3	1214.4	1197.0	1179.5
10°	1424.6	1358.5	1292.5	1237.3	1182.0	1142.6	1103.1	1087.3	1071.5	1049.5	1027.5
12.5°	1334.9	1262.6	1190.3	1134.7	1079.0	1040.8	1002.6	979.8	956.9	944.5	932.0
15°	1241.0	1163.7	1086.5	1035.0	983.5	949.0	914.6	894.6	874.7	862.6	850.6
17.5°	1157.9	1081.5	1005.1	955.7	906.2	874.7	843.1	825.7	808.2	799.1	790.0
20°	1079.0	1004.3	929.5	881.3	833.1	807.4	781.6	770.4	759.2	751.7	744.3
22.5°	1006.8	933.2	859.7	818.6	777.5	756.7	736.0	728.1	720.2	713.9	707.7
25°	934.5	868.9	803.2	768.4	733.5	716.4	699.4	691.5	683.6	677.4	671.2
27.5°	875.5	812.8	750.1	720.2	690.3	677.0	663.7	657.5	651.2	645.4	639.6
30°	818.2	762.1	706.1	680.3	654.6	642.5	630.5	624.2	618.0	612.6	607.2
32.5°	765.0	716.9	668.7	645.0	621.3	611.4	601.4	593.9	586.4	582.3	578.1
35°	714.4	671.2	628.0	608.5	588.9	579.0	569.0	562.8	556.5	553.2	549.9
37.5°	671.2	632.5	593.9	575.2	556.5	547.0	537.4	532.0	526.6	525.4	524.1
40°	627.1	593.9	560.7	542.4	524.1	515.8	507.5	504.2	500.9	500.1	499.2
42.5°	590.6	558.2	525.8	509.2	492.6	485.5	478.5	476.8	475.1	476.4	477.6
45°	548.2	521.2	494.2	478.9	463.5	457.7	451.9	450.6	449.4	451.9	454.4
47.5°	512.5	487.6	462.7	448.1	433.6	429.4	425.3	424.9	424.5	427.8	431.1
50°	476.0	451.9	427.8	416.2	404.5	400.8	397.1	398.3	399.5	404.9	410.3
52.5°	441.9	419.5	397.1	386.3	375.5	373.0	370.5	373.4	376.3	382.1	387.9
55°	404.5	384.2	363.8	355.5	347.2	344.7	342.2	348.0	353.9	359.3	364.7
57.5°	368.8	351.0	333.1	325.6	318.1	317.7	317.3	322.7	328.1	333.9	339.7
60°	330.6	315.6	300.7	294.9	289.1	289.9	290.7	297.0	303.2	307.8	312.3
62.5°	295.7	283.3	270.8	265.4	260.0	262.1	264.1	270.4	276.6	282.0	287.4
65°	260.8	250.4	240.1	236.3	232.6	235.5	238.4	243.8	249.2	252.9	256.7
67.5°	227.6	218.9	210.2	207.2	204.3	207.2	210.2	215.6	221.0	224.7	228.4
70°	192.7	185.7	178.6	176.5	174.4	177.8	181.1	185.7	190.2	194.0	197.7
72.5°	160.3	154.9	149.5	149.1	148.7	151.6	154.5	159.1	163.6	166.1	168.6
75°	128.8	125.8	122.9	122.5	122.1	125.0	127.9	130.4	132.9	135.0	137.1
77.5°	100.5	98.0	95.5	95.9	96.4	98.4	100.5	103.0	105.5	106.7	108.0
80°	71.4	70.6	69.8	70.6	71.4	73.1	74.8	76.4	78.1	78.9	79.7
82.5°	49.0	48.2	47.3	48.6	49.8	51.1	52.3	53.6	54.8	55.2	55.7
85°	28.2	29.5	30.7	30.7	30.7	31.1	31.6	32.0	32.4	32.0	31.6
87.5°	13.3	13.7	14.1	14.1	14.1	14.5	15.0	15.0	15.0	14.5	14.1
90°	12.7	16.0	19.8	23.5	27.2	30.9	32.1	33.2	34.4	35.5	36.4
92.5°	22.8	23.2	25.8	28.3	30.9	33.5	35.5	37.5	39.5	41.5	42.7
95°	31.6	27.3	30.5	33.6	36.8	39.9	41.9	44.0	46.0	48.0	49.0
97.5°	110.9	99.6	85.0	70.4	55.8	41.2	43.5	45.8	48.1	50.4	51.7
100°	240.7	221.2	176.5	131.9	87.2	42.5	44.8	47.1	49.4	51.7	53.0
102.5°	317.7	294.6	244.8	195.0	145.2	95.3	85.9	76.4	67.0	57.6	53.1
105°	396.6	385.2	359.5	333.7	307.9	282.2	231.5	180.8	130.1	79.5	54.4
107.5°	480.6	484.0	488.3	492.6	496.9	501.2	457.1	413.0	368.9	324.8	284.0
110°	565.8	568.5	571.6	574.8	577.9	581.1	571.6	562.2	552.7	543.3	518.1



TEST NUMBER: P831486

CATALOG NUMBER: S123DIP-S560D1195U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	647.1	649.7	652.8	656.0	659.1	662.3	664.8	667.4	670.0	672.6	673.6
115°	727.1	729.3	731.8	734.4	737.0	739.6	742.4	745.3	748.2	751.0	753.0
117.5°	808.1	809.9	811.3	812.7	814.2	815.6	817.9	820.2	822.5	824.7	826.0
120°	883.9	885.6	886.5	887.3	888.2	889.0	891.3	893.6	895.9	898.2	899.3
122.5°	956.3	957.9	959.0	960.2	961.3	962.5	963.9	965.3	966.8	968.2	969.1
125°	1024.5	1026.2	1027.3	1028.5	1029.6	1030.8	1031.3	1031.9	1032.5	1033.0	1033.6
127.5°	1091.5	1093.3	1094.8	1096.2	1097.6	1099.0	1099.9	1100.8	1101.6	1102.5	1102.6
130°	1153.3	1155.0	1156.2	1157.3	1158.5	1159.6	1160.7	1161.9	1163.0	1164.2	1164.5
132.5°	1212.6	1214.1	1215.0	1215.9	1216.7	1217.6	1218.7	1219.9	1221.0	1222.2	1222.3
135°	1270.8	1272.3	1273.4	1274.6	1275.7	1276.9	1277.7	1278.6	1279.4	1280.3	1280.3
137.5°	1324.7	1326.1	1326.7	1327.2	1327.8	1328.4	1329.8	1331.3	1332.7	1334.1	1334.5
140°	1373.9	1375.2	1376.1	1376.9	1377.8	1378.6	1379.8	1380.9	1382.1	1383.2	1383.5
142.5°	1421.6	1422.9	1423.7	1424.6	1425.5	1426.3	1427.2	1428.0	1428.9	1429.7	1429.7
145°	1466.5	1467.8	1468.4	1469.0	1469.5	1470.1	1470.7	1471.3	1471.8	1472.4	1472.7
147.5°	1506.8	1507.8	1508.3	1508.9	1509.5	1510.1	1510.6	1511.2	1511.8	1512.4	1511.9
150°	1543.1	1543.8	1544.4	1545.0	1545.6	1546.1	1546.7	1547.3	1547.9	1548.4	1548.3
152.5°	1575.6	1575.9	1576.2	1576.5	1576.8	1577.1	1578.2	1579.3	1580.5	1581.6	1581.5
155°	1604.4	1604.3	1604.5	1604.8	1605.1	1605.4	1606.8	1608.3	1609.7	1611.1	1611.0
157.5°	1632.5	1632.3	1632.0	1631.7	1631.5	1631.2	1632.9	1634.6	1636.3	1638.0	1637.8
160°	1654.5	1654.2	1653.9	1653.7	1653.4	1653.1	1654.8	1656.5	1658.2	1659.9	1659.8
162.5°	1674.1	1673.5	1673.3	1673.0	1672.7	1672.4	1674.4	1676.4	1678.4	1680.4	1680.6
165°	1690.9	1690.3	1690.0	1689.7	1689.4	1689.2	1691.4	1693.7	1696.0	1698.3	1698.5
167.5°	1703.9	1703.3	1703.3	1703.3	1703.3	1703.3	1705.6	1707.9	1710.2	1712.5	1712.5
170°	1715.5	1714.9	1714.9	1714.9	1714.9	1714.9	1717.2	1719.5	1721.8	1724.1	1724.1
172.5°	1722.1	1721.5	1721.8	1722.1	1722.4	1722.7	1724.9	1727.2	1729.5	1731.8	1731.7
175°	1728.5	1728.0	1728.2	1728.5	1728.8	1729.1	1731.1	1733.1	1735.1	1737.1	1737.0
177.5°	1731.1	1730.5	1730.8	1731.1	1731.4	1731.7	1734.0	1736.3	1738.5	1740.8	1740.5
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831486

CATALOG NUMBER: S123DIP-S560D1195U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1790.1	1790.1	1790.1	1790.1
2.5°	1591.1	1588.2	1576.6	1565.0
5°	1349.0	1339.0	1335.7	1332.4
7.5°	1178.7	1177.9	1160.4	1143.0
10°	1028.8	1030.0	1014.2	998.4
12.5°	921.6	911.2	910.0	908.7
15°	841.0	831.5	829.8	828.2
17.5°	784.1	778.3	776.7	775.0
20°	740.9	737.6	734.7	731.8
22.5°	703.6	699.4	696.9	694.4
25°	667.4	663.7	662.9	662.0
27.5°	635.0	630.5	630.5	630.5
30°	604.3	601.4	600.1	598.9
32.5°	575.6	573.2	573.2	573.2
35°	548.6	547.4	545.7	544.1
37.5°	524.1	524.1	523.3	522.5
40°	500.5	501.7	501.7	501.7
42.5°	478.9	480.1	480.1	480.1
45°	456.4	458.5	459.4	460.2
47.5°	434.4	437.8	438.6	439.4
50°	412.8	415.3	415.7	416.2
52.5°	390.8	393.7	395.8	397.9
55°	367.6	370.5	371.7	373.0
57.5°	342.6	345.6	346.0	346.4
60°	315.2	318.1	319.0	319.8
62.5°	289.1	290.7	291.6	292.4
65°	259.2	261.7	263.3	265.0
67.5°	230.5	232.6	232.6	232.6
70°	198.5	199.4	200.6	201.8
72.5°	169.0	169.5	169.5	169.5
75°	137.9	138.7	139.1	139.5
77.5°	108.4	108.8	108.8	108.8
80°	79.3	78.9	78.9	78.9
82.5°	54.4	53.2	53.2	53.2
85°	31.1	30.7	31.1	31.6
87.5°	14.1	14.1	14.1	14.1
90°	36.9	37.5	38.1	38.7
92.5°	42.9	43.2	43.5	43.8
95°	49.0	49.0	49.0	49.0
97.5°	52.0	52.3	52.5	52.8
100°	53.3	53.5	53.8	54.1
102.5°	53.7	54.3	54.8	55.4
105°	55.0	55.5	56.1	56.7
107.5°	246.5	209.0	171.5	134.0
110°	477.2	436.2	395.3	354.3



TEST NUMBER: P831486

CATALOG NUMBER: S123DIP-S560D1195U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	673.0	672.4	671.9	671.3
115°	754.2	755.3	756.5	757.6
117.5°	826.3	826.6	826.9	827.2
120°	899.3	899.3	899.3	899.3
122.5°	969.3	969.6	969.9	970.2
125°	1034.2	1034.8	1035.3	1035.9
127.5°	1102.1	1101.5	1100.9	1100.3
130°	1163.9	1163.3	1162.8	1162.2
132.5°	1221.4	1220.6	1219.7	1218.9
135°	1279.4	1278.6	1277.7	1276.9
137.5°	1334.0	1333.4	1332.8	1332.3
140°	1382.9	1382.4	1381.8	1381.2
142.5°	1428.9	1428.0	1427.2	1426.3
145°	1472.7	1472.7	1472.7	1472.7
147.5°	1510.5	1509.1	1507.6	1506.2
150°	1547.4	1546.6	1545.7	1544.8
152.5°	1580.1	1578.6	1577.2	1575.8
155°	1609.3	1607.6	1605.8	1604.1
157.5°	1635.5	1633.2	1630.9	1628.6
160°	1657.8	1655.8	1653.8	1651.8
162.5°	1678.8	1677.1	1675.4	1673.7
165°	1696.5	1694.5	1692.4	1690.4
167.5°	1710.2	1707.9	1705.6	1703.3
170°	1721.8	1719.5	1717.2	1714.9
172.5°	1729.1	1726.5	1723.9	1721.4
175°	1734.7	1732.4	1730.1	1727.8
177.5°	1737.7	1734.8	1732.0	1729.1
180°	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831486

CATALOG NUMBER: S123DIP-S560D1195U850-4F0-1E-UDD-G

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	12.29	13.01	13.37	14.09	15.56	14.53	15.25	15.61	16.32	17.79
	3H	13.93	14.57	15.02	15.66	17.14	15.94	16.59	17.03	17.67	19.16
	4H	14.50	15.11	15.60	16.20	17.69	16.38	17.00	17.48	18.08	19.58
	6H	14.86	15.42	15.97	16.51	18.02	16.65	17.22	17.76	18.30	19.81
	8H	14.95	15.49	16.07	16.59	18.09	16.71	17.25	17.82	18.35	19.85
	12H	14.99	15.50	16.11	16.60	18.12	16.73	17.23	17.84	18.33	19.85
4H	2H	12.85	13.46	13.96	14.55	16.04	14.67	15.28	15.78	16.37	17.86
	3H	14.67	15.17	15.78	16.29	17.79	16.28	16.79	17.39	17.90	19.41
	4H	15.36	15.82	16.47	16.93	18.45	16.86	17.33	17.98	18.43	19.95
	6H	15.83	16.23	16.95	17.35	18.87	17.26	17.66	18.38	18.78	20.30
	8H	15.96	16.33	17.08	17.45	18.99	17.36	17.74	18.49	18.86	20.39
	12H	16.02	16.36	17.16	17.49	19.03	17.40	17.74	18.54	18.87	20.41
8H	4H	15.61	15.99	16.74	17.10	18.64	16.95	17.33	18.08	18.44	19.98
	6H	16.20	16.51	17.34	17.67	19.20	17.45	17.76	18.60	18.92	20.45
	8H	16.40	16.67	17.56	17.81	19.37	17.63	17.90	18.78	19.04	20.59
	12H	16.52	16.76	17.68	17.90	19.48	17.73	17.96	18.88	19.10	20.69
12H	4H	15.61	15.95	16.75	17.08	18.62	16.92	17.26	18.06	18.39	19.93
	6H	16.25	16.52	17.40	17.66	19.21	17.46	17.73	18.62	18.87	20.43
	8H	16.48	16.71	17.63	17.85	19.44	17.66	17.89	18.81	19.03	20.62