

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: P831541

Luminaire Tested: S123DIP-S560D585U850-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831541
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U850-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

Summary

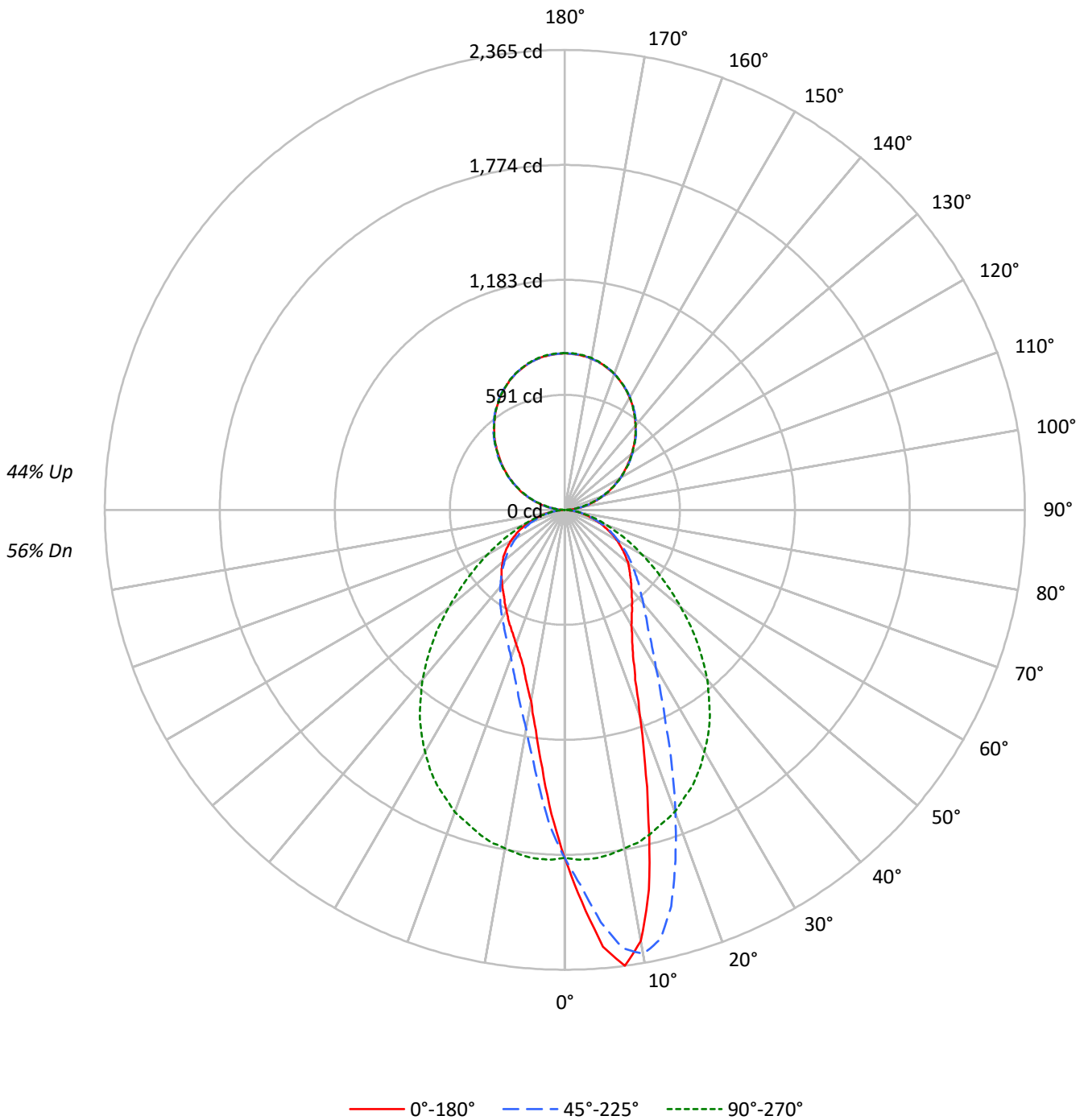
Lumens per Lamp: N/A
Luminaire Lumens: 5110.4 lumens
Efficiency: N/A
Efficacy: 146.9 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 34.8
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56				56
1	100	96	92	89	93	89	86	83	77	75	73	66	64	63	56	54	53				49	
2	91	84	78	73	85	79	74	69	68	64	61	59	56	53	50	48	46				42	
3	84	75	68	62	78	70	64	59	61	56	52	52	49	46	45	42	40				36	
4	77	67	59	53	72	62	56	50	55	49	45	47	43	40	41	38	35				32	
5	71	60	52	46	66	56	49	44	49	44	40	43	39	35	37	34	31				28	
6	66	54	46	41	61	51	44	39	45	39	35	39	35	31	34	31	28				25	
7	61	49	42	36	57	46	39	35	41	35	31	36	32	28	31	28	25				23	
8	57	45	38	32	53	43	36	31	38	32	28	33	29	26	29	26	23				21	
9	53	41	34	29	50	39	33	28	35	29	26	31	26	23	27	24	21				19	
10	50	38	31	27	47	36	30	25	32	27	23	29	24	21	25	22	19				17	

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	3.3
10°-20°	421.0	8.2
20°-30°	498.5	9.8
30°-40°	501.2	9.8
40°-50°	459.9	9.0
50°-60°	379.6	7.4
60°-70°	268.5	5.3
70°-80°	143.3	2.8
80°-90°	38.1	0.7
90°-100°	51.8	1.0
100°-110°	156.9	3.1
110°-120°	267.1	5.2
120°-130°	351.4	6.9
130°-140°	395.0	7.7
140°-150°	388.3	7.6
150°-160°	326.9	6.4
160°-170°	217.6	4.3
170°-180°	76.2	1.5
0°-30°	1088.7	21.3
0°-40°	1590.0	31.1
0°-60°	2429.4	47.5
0°-90°	2879.3	56.3
90°-120°	475.8	9.3
90°-150°	1610.4	31.5
90°-180°	2231.0	43.7
0°-180°	5110.4	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°	19	15	1	15	19	11
95°	49	47	37	47	49	49
105°	151	149	142	149	151	160
115°	270	270	269	270	270	267
125°	389	394	394	394	389	348
135°	510	514	510	514	510	392
145°	619	622	619	622	619	387
155°	708	710	709	710	708	326
165°	770	770	772	770	770	217
175°	800	801	803	801	800	76
180°	805	805	805	805	805	



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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°	19.0	18.7	18.4	18.1	17.9	17.4	16.9	16.3	15.7	15.2	13.4
92.5°	27.2	27.5	27.8	28.0	28.3	28.3	27.8	27.4	27.0	26.6	25.7
95°	49.3	49.3	49.3	49.3	49.3	49.1	48.5	47.9	47.4	46.8	45.7
97.5°	70.8	71.0	71.1	71.3	71.4	71.1	70.4	69.7	69.0	68.3	67.5
100°	96.1	95.9	95.6	95.3	95.0	94.7	94.3	93.8	93.4	93.0	92.3
102.5°	122.1	122.2	122.4	122.5	122.6	122.5	122.1	121.7	121.2	120.8	119.8
105°	150.6	150.3	150.0	149.7	149.4	149.3	149.3	149.3	149.3	149.3	148.0
107.5°	179.6	179.8	179.9	180.1	180.2	180.1	179.6	179.2	178.8	178.4	177.8
110°	209.4	209.7	209.9	210.2	210.5	210.4	209.8	209.2	208.7	208.1	207.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	241.0	241.0	241.0	241.0	241.0	240.7	240.0	239.2	238.5	237.8	237.8
115°	269.5	269.6	269.8	269.9	270.0	270.0	269.9	269.8	269.6	269.5	269.8
117.5°	298.6	299.0	299.4	299.8	300.3	300.5	300.5	300.5	300.5	300.5	300.7
120°	329.6	329.8	330.1	330.4	330.7	330.9	331.0	331.2	331.3	331.5	332.2
122.5°	359.3	359.7	360.1	360.6	361.0	361.4	361.8	362.2	362.7	363.1	363.4
125°	389.0	389.6	390.2	390.7	391.3	391.8	392.4	393.0	393.5	394.1	394.4
127.5°	418.8	419.3	419.9	420.4	421.0	421.7	422.6	423.4	424.2	425.1	425.4
130°	447.9	448.8	449.8	450.8	451.8	452.6	453.1	453.7	454.3	454.8	455.2
132.5°	478.2	478.9	479.6	480.3	481.0	481.7	482.4	483.1	483.8	484.5	484.8
135°	509.8	510.1	510.4	510.7	511.0	511.4	512.0	512.5	513.1	513.6	513.8
137.5°	537.7	538.1	538.5	538.9	539.4	539.9	540.6	541.3	542.0	542.7	542.3
140°	564.9	565.9	566.8	567.8	568.8	569.4	569.5	569.7	569.8	569.9	569.8
142.5°	592.7	593.4	594.1	594.8	595.5	595.9	596.1	596.2	596.4	596.5	596.2
145°	619.3	619.8	620.4	621.0	621.5	621.9	622.0	622.2	622.3	622.4	622.0
147.5°	643.3	644.2	645.0	645.8	646.7	647.1	647.1	647.1	647.1	647.1	646.7
150°	666.1	666.9	667.8	668.6	669.5	669.9	669.9	669.9	669.9	669.9	669.6
152.5°	688.2	688.9	689.6	690.3	691.0	691.3	691.0	690.7	690.4	690.1	690.0
155°	707.8	708.8	709.8	710.8	711.8	712.0	711.4	710.9	710.3	709.7	709.6
157.5°	726.2	727.0	727.9	728.7	729.6	729.7	729.1	728.6	728.0	727.4	727.3
160°	743.9	744.5	745.0	745.6	746.1	746.1	745.4	744.7	744.0	743.3	743.3
162.5°	757.2	758.2	759.1	760.1	761.1	761.3	760.6	759.8	759.1	758.4	758.3
165°	769.8	770.8	771.8	772.8	773.8	773.8	773.0	772.1	771.3	770.5	770.5
167.5°	781.2	782.1	782.9	783.7	784.6	784.6	783.7	782.9	782.1	781.2	781.1
170°	789.4	790.4	791.4	792.4	793.4	793.4	792.4	791.4	790.4	789.4	789.4
172.5°	795.8	796.7	797.7	798.7	799.7	799.8	798.9	798.1	797.2	796.4	796.4
175°	800.2	801.2	802.2	803.1	804.1	804.2	803.4	802.5	801.7	800.8	800.8
177.5°	802.7	803.7	804.7	805.7	806.7	806.7	805.9	805.0	804.2	803.4	803.4
180°	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3



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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°	11.5	9.7	7.9	6.3	4.8	3.4	2.0	0.6	2.0	3.4	4.8
92.5°	24.9	24.0	23.2	22.4	21.5	20.7	19.8	19.0	19.8	20.7	21.5
95°	44.6	43.4	42.3	41.3	40.3	39.3	38.3	37.3	38.3	39.3	40.3
97.5°	66.6	65.8	64.9	64.2	63.5	62.8	62.1	61.4	62.1	62.8	63.5
100°	91.6	90.9	90.2	89.4	88.6	87.7	86.9	86.0	86.9	87.7	88.6
102.5°	118.9	117.9	116.9	116.2	115.8	115.3	114.9	114.5	114.9	115.3	115.8
105°	146.8	145.5	144.2	143.5	143.2	142.9	142.6	142.3	142.6	142.9	143.2
107.5°	177.3	176.7	176.1	175.8	175.6	175.5	175.4	175.2	175.4	175.5	175.6
110°	207.6	207.3	207.0	206.7	206.4	206.1	205.9	205.6	205.9	206.1	206.4

TEST NUMBER: P831541

CATALOG NUMBER: S123DIP-S560D585U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	237.8	237.8	237.8	237.8	237.6	237.5	237.4	237.2	237.4	237.5	237.6
115°	270.0	270.3	270.6	270.5	270.1	269.7	269.3	268.8	269.3	269.7	270.1
117.5°	301.0	301.3	301.6	301.7	301.5	301.4	301.2	301.1	301.2	301.4	301.5
120°	332.9	333.6	334.3	334.2	333.4	332.5	331.7	330.8	331.7	332.5	333.4
122.5°	363.7	363.9	364.2	364.1	363.5	363.0	362.4	361.8	362.4	363.0	363.5
125°	394.6	394.9	395.2	395.1	394.7	394.3	393.9	393.5	393.9	394.3	394.7
127.5°	425.6	425.9	426.2	425.9	425.1	424.2	423.4	422.6	423.4	424.2	425.1
130°	455.7	456.1	456.5	456.1	455.0	453.9	452.8	451.7	452.8	453.9	455.0
132.5°	485.1	485.4	485.7	485.2	484.1	483.0	481.9	480.7	481.9	483.0	484.1
135°	513.9	514.1	514.2	513.9	513.0	512.2	511.3	510.5	511.3	512.2	513.0
137.5°	541.9	541.5	541.1	540.5	539.8	539.1	538.4	537.7	538.4	539.1	539.8
140°	569.7	569.5	569.4	569.0	568.3	567.5	566.8	566.1	566.8	567.5	568.3
142.5°	595.9	595.7	595.4	594.9	594.2	593.5	592.8	592.1	592.8	593.5	594.2
145°	621.6	621.2	620.8	620.4	620.1	619.8	619.6	619.3	619.6	619.8	620.1
147.5°	646.3	645.8	645.4	644.9	644.4	643.8	643.2	642.7	643.2	643.8	644.4
150°	669.3	669.0	668.8	668.5	668.2	667.9	667.6	667.4	667.6	667.9	668.2
152.5°	689.8	689.7	689.6	689.3	688.9	688.4	688.0	687.6	688.0	688.4	688.9
155°	709.5	709.3	709.2	709.1	709.1	709.1	709.1	709.1	709.1	709.1	709.1
157.5°	727.2	727.0	726.9	726.9	727.0	727.2	727.3	727.4	727.3	727.2	727.0
160°	743.3	743.3	743.3	743.4	743.7	744.0	744.2	744.5	744.2	744.0	743.7
162.5°	758.2	758.0	757.9	758.0	758.4	758.9	759.3	759.7	759.3	758.9	758.4
165°	770.5	770.5	770.5	770.7	771.1	771.5	771.9	772.4	771.9	771.5	771.1
167.5°	780.9	780.8	780.7	780.9	781.4	782.0	782.6	783.1	782.6	782.0	781.4
170°	789.4	789.4	789.4	789.7	790.3	790.8	791.4	792.0	791.4	790.8	790.3
172.5°	796.4	796.4	796.4	796.7	797.2	797.8	798.4	798.9	798.4	797.8	797.2
175°	800.8	800.8	800.8	801.1	801.7	802.2	802.8	803.4	802.8	802.2	801.7
177.5°	803.4	803.4	803.4	803.6	804.2	804.8	805.3	805.9	805.3	804.8	804.2
180°	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3



TEST NUMBER: P831541

CATALOG NUMBER: S123DIP-S560D585U850-4F0-1E-UDD-G1

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°	6.3	7.9	9.7	11.5	13.4	15.2	15.7	16.3	16.9	17.4	17.9
92.5°	22.4	23.2	24.0	24.9	25.7	26.6	27.0	27.4	27.8	28.3	28.3
95°	41.3	42.3	43.4	44.6	45.7	46.8	47.4	47.9	48.5	49.1	49.3
97.5°	64.2	64.9	65.8	66.6	67.5	68.3	69.0	69.7	70.4	71.1	71.4
100°	89.4	90.2	90.9	91.6	92.3	93.0	93.4	93.8	94.3	94.7	95.0
102.5°	116.2	116.9	117.9	118.9	119.8	120.8	121.2	121.7	122.1	122.5	122.6
105°	143.5	144.2	145.5	146.8	148.0	149.3	149.3	149.3	149.3	149.3	149.4
107.5°	175.8	176.1	176.7	177.3	177.8	178.4	178.8	179.2	179.6	180.1	180.2
110°	206.7	207.0	207.3	207.6	207.8	208.1	208.7	209.2	209.8	210.4	210.5



TEST NUMBER: P831541

CATALOG NUMBER: S123DIP-S560D585U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	237.8	237.8	237.8	237.8	237.8	237.8	238.5	239.2	240.0	240.7	241.0
115°	270.5	270.6	270.3	270.0	269.8	269.5	269.6	269.8	269.9	270.0	270.0
117.5°	301.7	301.6	301.3	301.0	300.7	300.5	300.5	300.5	300.5	300.5	300.3
120°	334.2	334.3	333.6	332.9	332.2	331.5	331.3	331.2	331.0	330.9	330.7
122.5°	364.1	364.2	363.9	363.7	363.4	363.1	362.7	362.2	361.8	361.4	361.0
125°	395.1	395.2	394.9	394.6	394.4	394.1	393.5	393.0	392.4	391.8	391.3
127.5°	425.9	426.2	425.9	425.6	425.4	425.1	424.2	423.4	422.6	421.7	421.0
130°	456.1	456.5	456.1	455.7	455.2	454.8	454.3	453.7	453.1	452.6	451.8
132.5°	485.2	485.7	485.4	485.1	484.8	484.5	483.8	483.1	482.4	481.7	481.0
135°	513.9	514.2	514.1	513.9	513.8	513.6	513.1	512.5	512.0	511.4	511.0
137.5°	540.5	541.1	541.5	541.9	542.3	542.7	542.0	541.3	540.6	539.9	539.4
140°	569.0	569.4	569.5	569.7	569.8	569.9	569.8	569.7	569.5	569.4	568.8
142.5°	594.9	595.4	595.7	595.9	596.2	596.5	596.4	596.2	596.1	595.9	595.5
145°	620.4	620.8	621.2	621.6	622.0	622.4	622.3	622.2	622.0	621.9	621.5
147.5°	644.9	645.4	645.8	646.3	646.7	647.1	647.1	647.1	647.1	647.1	646.7
150°	668.5	668.8	669.0	669.3	669.6	669.9	669.9	669.9	669.9	669.9	669.5
152.5°	689.3	689.6	689.7	689.8	690.0	690.1	690.4	690.7	691.0	691.3	691.0
155°	709.1	709.2	709.3	709.5	709.6	709.7	710.3	710.9	711.4	712.0	711.8
157.5°	726.9	726.9	727.0	727.2	727.3	727.4	728.0	728.6	729.1	729.7	729.6
160°	743.4	743.3	743.3	743.3	743.3	743.3	744.0	744.7	745.4	746.1	746.1
162.5°	758.0	757.9	758.0	758.2	758.3	758.4	759.1	759.8	760.6	761.3	761.1
165°	770.7	770.5	770.5	770.5	770.5	770.5	771.3	772.1	773.0	773.8	773.8
167.5°	780.9	780.7	780.8	780.9	781.1	781.2	782.1	782.9	783.7	784.6	784.6
170°	789.7	789.4	789.4	789.4	789.4	789.4	790.4	791.4	792.4	793.4	793.4
172.5°	796.7	796.4	796.4	796.4	796.4	796.4	797.2	798.1	798.9	799.8	799.7
175°	801.1	800.8	800.8	800.8	800.8	800.8	801.7	802.5	803.4	804.2	804.1
177.5°	803.6	803.4	803.4	803.4	803.4	803.4	804.2	805.0	805.9	806.7	806.7
180°	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3	805.3



TEST NUMBER: P831541

CATALOG NUMBER: S123DIP-S560D585U850-4F0-1E-UDD-G1

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°	18.1	18.4	18.7	19.0
92.5°	28.0	27.8	27.5	27.2
95°	49.3	49.3	49.3	49.3
97.5°	71.3	71.1	71.0	70.8
100°	95.3	95.6	95.9	96.1
102.5°	122.5	122.4	122.2	122.1
105°	149.7	150.0	150.3	150.6
107.5°	180.1	179.9	179.8	179.6
110°	210.2	209.9	209.7	209.4



TEST NUMBER: P831541

CATALOG NUMBER: S123DIP-S560D585U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	241.0	241.0	241.0	241.0
115°	269.9	269.8	269.6	269.5
117.5°	299.8	299.4	299.0	298.6
120°	330.4	330.1	329.8	329.6
122.5°	360.6	360.1	359.7	359.3
125°	390.7	390.2	389.6	389.0
127.5°	420.4	419.9	419.3	418.8
130°	450.8	449.8	448.8	447.9
132.5°	480.3	479.6	478.9	478.2
135°	510.7	510.4	510.1	509.8
137.5°	538.9	538.5	538.1	537.7
140°	567.8	566.8	565.9	564.9
142.5°	594.8	594.1	593.4	592.7
145°	621.0	620.4	619.8	619.3
147.5°	645.8	645.0	644.2	643.3
150°	668.6	667.8	666.9	666.1
152.5°	690.3	689.6	688.9	688.2
155°	710.8	709.8	708.8	707.8
157.5°	728.7	727.9	727.0	726.2
160°	745.6	745.0	744.5	743.9
162.5°	760.1	759.1	758.2	757.2
165°	772.8	771.8	770.8	769.8
167.5°	783.7	782.9	782.1	781.2
170°	792.4	791.4	790.4	789.4
172.5°	798.7	797.7	796.7	795.8
175°	803.1	802.2	801.2	800.2
177.5°	805.7	804.7	803.7	802.7
180°	805.3	805.3	805.3	805.3



TEST NUMBER: P831541

CATALOG NUMBER: S123DIP-S560D585U850-4F0-1E-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	14.42	15.30	15.33	16.22	17.40	16.66	17.54	17.56	18.46	19.64
	3H	16.07	16.86	16.99	17.79	18.99	18.08	18.87	19.00	19.80	21.01
	4H	16.65	17.39	17.58	18.33	19.54	18.53	19.28	19.47	20.21	21.43
	6H	17.02	17.70	17.96	18.65	19.87	18.81	19.49	19.76	20.44	21.66
	8H	17.11	17.77	18.07	18.73	19.95	18.87	19.52	19.83	20.48	21.71
	12H	17.16	17.78	18.12	18.73	19.98	18.89	19.51	19.85	20.47	21.72
4H	2H	15.00	15.74	15.94	16.68	17.89	16.82	17.57	17.76	18.50	19.72
	3H	16.83	17.45	17.78	18.41	19.64	18.44	19.06	19.39	20.03	21.26
	4H	17.53	18.09	18.49	19.05	20.31	19.03	19.59	19.99	20.55	21.81
	6H	18.00	18.49	18.98	19.47	20.73	19.43	19.92	20.41	20.90	22.16
	8H	18.14	18.59	19.11	19.57	20.84	19.54	20.00	20.52	20.98	22.24
	12H	18.21	18.62	19.20	19.61	20.88	19.59	20.00	20.58	20.99	22.27
8H	4H	17.79	18.25	18.77	19.23	20.49	19.13	19.59	20.11	20.57	21.83
	6H	18.38	18.76	19.38	19.78	21.04	19.64	20.01	20.64	21.03	22.30
	8H	18.59	18.92	19.60	19.93	21.21	19.82	20.15	20.83	21.16	22.44
	12H	18.72	19.01	19.73	20.01	21.34	19.92	20.21	20.93	21.21	22.54
12H	4H	17.80	18.20	18.79	19.20	20.47	19.11	19.52	20.10	20.51	21.79
	6H	18.43	18.76	19.44	19.77	21.06	19.65	19.98	20.66	20.99	22.27
	8H	18.67	18.96	19.68	19.96	21.29	19.85	20.14	20.86	21.14	22.47