

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: P831205

Luminaire Tested: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831205
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-S1165D1025U950-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

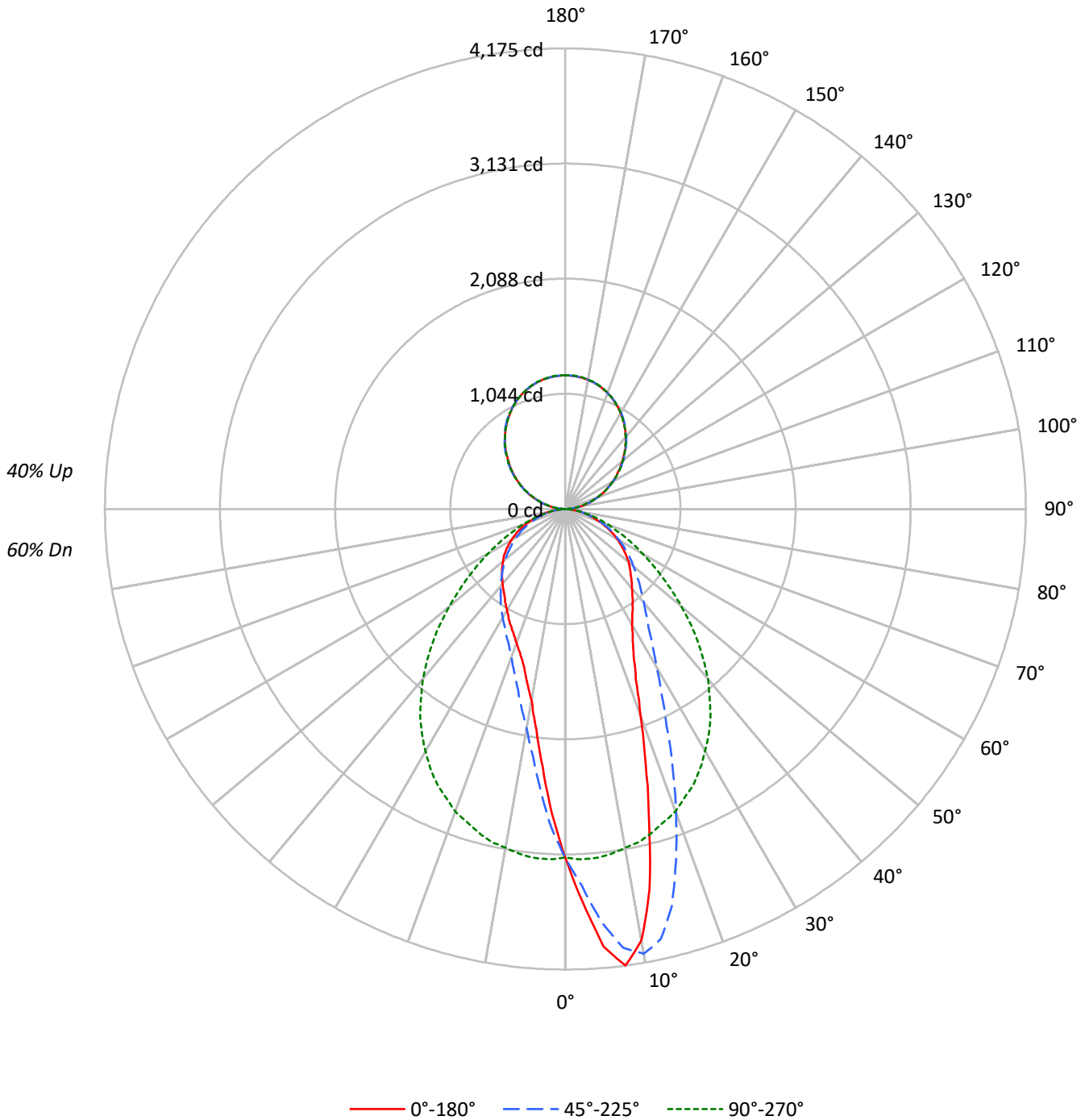
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8441.1 lumens
Efficiency: N/A
Efficacy: 124.0 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-Direct

Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P831205
CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

Luminous Intensity Polar Plot





TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60				
1	101	97	93	89	94	90	87	84	79	77	74	69	67	65	59	58	57	52				
2	92	85	79	74	86	80	75	70	70	66	63	61	58	56	53	51	49	45				
3	85	75	68	63	79	71	65	60	62	58	54	55	51	48	47	45	42	39				
4	78	67	60	54	73	64	57	51	56	51	47	49	45	42	43	40	37	34				
5	72	61	53	47	67	57	50	45	51	45	41	45	40	37	39	36	33	30				
6	67	55	47	41	62	52	45	40	46	40	36	41	36	33	36	32	30	27				
7	62	50	42	37	58	47	40	35	42	37	32	38	33	30	33	29	27	24				
8	58	46	38	33	54	43	36	32	39	33	29	35	30	27	31	27	24	22				
9	54	42	35	30	51	40	33	29	36	30	27	32	28	24	29	25	22	20				
10	51	39	32	27	48	37	31	26	33	28	24	30	26	22	27	23	21	19				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	34013	34013	34013	34013	34013
5°	43015	40599	34317	27654	25412
10°	43432	44746	34088	22045	19264
15°	32712	41545	33857	18668	16291
20°	22793	33617	33424	16325	14797
25°	17380	25852	32687	15020	13879
30°	15035	20539	31510	14097	13140
35°	13950	17341	30154	13429	12620
40°	13207	15556	28247	12795	12444
45°	12767	14397	25825	12298	12365
50°	12548	13480	22958	11848	12301
55°	12080	12810	20142	11419	12356
60°	11649	12090	17362	11016	12152
65°	10942	11410	14976	10588	11915
70°	10106	10543	12737	9876	11213
75°	9145	9453	10917	9179	10243
80°	7544	8269	8635	7996	8635
85°	5978	6706	6336	6793	6879

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 29486 cd/sqm



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.7	3.5
10°-20°	743.2	8.8
20°-30°	880.0	10.4
30°-40°	884.8	10.5
40°-50°	811.8	9.6
50°-60°	670.0	7.9
60°-70°	474.0	5.6
70°-80°	253.0	3.0
80°-90°	66.8	0.8
90°-100°	78.0	0.9
100°-110°	236.2	2.8
110°-120°	402.1	4.8
120°-130°	529.0	6.3
130°-140°	594.6	7.0
140°-150°	584.6	6.9
150°-160°	492.1	5.8
160°-170°	327.6	3.9
170°-180°	114.7	1.4
0°-30°	1921.9	22.8
0°-40°	2806.7	33.3
0°-60°	4288.4	50.8
0°-90°	5082.2	60.2
90°-120°	716.3	8.5
90°-150°	2424.4	28.7
90°-180°	3359.0	39.8
0°-180°	8441.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3160	3160	3160	3160	3160	
5°	3981	3757	3176	2559	2352	379
15°	2936	3728	3038	1675	1462	811
25°	1463	2177	2752	1265	1169	691
35°	1062	1320	2295	1022	960	667
45°	839	946	1696	808	812	650
55°	644	683	1073	608	658	576
65°	430	448	588	416	468	427
75°	220	227	262	221	246	231
85°	48	54	51	55	56	54
90°	29	23	1	23	29	17
95°	74	70	56	70	74	74
105°	227	225	214	225	227	240
115°	406	406	405	406	406	402
125°	586	593	592	593	586	524
135°	768	773	768	773	768	590
145°	932	937	932	937	932	582
155°	1066	1068	1068	1068	1066	491
165°	1159	1160	1163	1160	1159	327
175°	1205	1206	1209	1206	1205	114
180°	1212	1212	1212	1212	1212	



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9
2.5°	3561.6	3558.0	3554.3	3536.0	3517.7	3508.9	3500.1	3473.7	3447.3	3417.9	3388.6
5°	3981.0	3991.3	4001.5	3989.8	3978.1	3942.2	3906.2	3858.6	3810.9	3757.4	3703.9
7.5°	4174.6	4180.4	4186.3	4179.0	4171.6	4162.1	4152.6	4110.0	4067.5	4012.5	3957.5
10°	3973.7	3986.9	4000.1	4028.7	4057.3	4089.5	4121.8	4115.9	4110.0	4093.9	4077.8
12.5°	3532.3	3548.4	3564.6	3621.8	3679.0	3752.3	3825.6	3888.6	3951.7	3995.7	4039.7
15°	2935.5	2980.3	3025.0	3077.0	3129.1	3236.9	3344.6	3477.3	3610.0	3728.1	3846.1
17.5°	2417.9	2434.8	2451.7	2507.4	2563.1	2698.7	2834.4	2987.6	3140.8	3336.6	3532.3
20°	1989.8	2005.2	2020.6	2093.9	2167.2	2273.5	2379.8	2552.1	2724.4	2934.8	3145.2
22.5°	1671.6	1695.8	1720.0	1761.0	1802.1	1904.0	2005.9	2159.1	2312.4	2544.8	2777.2
25°	1463.4	1481.0	1498.6	1523.5	1548.4	1629.8	1711.2	1837.3	1963.4	2176.7	2390.1
27.5°	1321.1	1328.5	1335.8	1360.7	1385.7	1438.4	1491.2	1599.7	1708.2	1889.3	2070.4
30°	1209.7	1214.8	1220.0	1242.0	1264.0	1299.9	1335.8	1414.2	1492.7	1652.5	1812.3
32.5°	1132.0	1135.7	1139.3	1156.2	1173.0	1198.7	1224.4	1281.5	1338.7	1470.7	1602.7
35°	1061.6	1063.8	1066.0	1078.5	1090.9	1110.0	1129.1	1172.3	1215.6	1319.7	1423.8
37.5°	1000.0	1003.0	1005.9	1013.2	1020.5	1037.4	1054.3	1088.7	1123.2	1203.1	1283.0
40°	939.9	945.0	950.2	955.3	960.4	974.4	988.3	1014.7	1041.1	1107.1	1173.0
42.5°	888.6	893.7	898.8	901.0	903.2	911.3	919.4	943.6	967.8	1016.9	1066.0
45°	838.7	840.9	843.1	845.3	847.5	854.1	860.7	882.0	903.2	945.8	988.3
47.5°	793.3	793.3	793.3	794.7	796.2	802.1	807.9	823.3	838.7	871.7	904.7
50°	749.3	749.3	749.3	747.1	744.9	748.5	752.2	763.9	775.7	805.0	834.3
52.5°	696.5	696.5	696.5	697.2	698.0	698.0	698.0	708.2	718.5	744.9	771.3
55°	643.7	646.6	649.6	647.4	645.2	646.6	648.1	654.7	661.3	682.6	703.8
57.5°	590.9	592.4	593.9	593.1	592.4	593.1	593.9	599.7	605.6	621.7	637.8
60°	541.1	541.1	541.1	539.6	538.1	539.6	541.1	544.0	546.9	561.6	576.3
62.5°	485.3	486.1	486.8	487.5	488.3	486.8	485.3	489.0	492.7	503.7	514.7
65°	429.6	430.4	431.1	433.3	435.5	434.0	432.6	436.2	439.9	448.0	456.0
67.5°	379.8	378.3	376.8	377.6	378.3	380.5	382.7	383.4	384.2	393.0	401.8
70°	321.1	322.6	324.1	323.3	322.6	323.3	324.1	326.3	328.5	335.0	341.6
72.5°	268.3	269.1	269.8	269.8	269.8	271.3	272.7	274.9	277.1	280.8	284.5
75°	219.9	219.9	219.9	221.4	222.9	223.6	224.3	224.3	224.3	227.3	230.2
77.5°	167.2	170.8	174.5	173.8	173.0	174.5	176.0	178.2	180.4	181.8	183.3
80°	121.7	121.7	121.7	122.4	123.2	125.4	127.6	129.0	130.5	133.4	136.4
82.5°	77.7	78.4	79.2	81.4	83.6	85.0	86.5	88.7	90.9	90.9	90.9
85°	48.4	46.9	45.5	46.9	48.4	49.9	51.3	52.1	52.8	54.3	55.7
87.5°	23.5	23.5	23.5	23.5	23.5	24.2	24.9	24.9	24.9	24.9	24.9
90°	28.6	28.1	27.7	27.3	26.9	26.2	25.4	24.5	23.7	22.9	20.1
92.5°	40.9	41.4	41.8	42.2	42.6	42.5	41.9	41.3	40.6	40.0	38.7
95°	74.3	74.3	74.3	74.3	74.3	73.9	73.0	72.2	71.3	70.5	68.8
97.5°	106.7	106.9	107.1	107.3	107.5	107.1	106.0	105.0	103.9	102.8	101.6
100°	144.7	144.3	143.9	143.5	143.1	142.5	141.9	141.3	140.6	140.0	138.9
102.5°	183.8	184.0	184.2	184.4	184.6	184.4	183.8	183.2	182.5	181.9	180.4
105°	226.6	226.2	225.8	225.4	225.0	224.7	224.7	224.7	224.7	224.7	222.8
107.5°	270.5	270.7	270.9	271.1	271.3	271.1	270.5	269.8	269.2	268.5	267.7
110°	315.2	315.6	316.1	316.5	316.9	316.7	315.8	315.0	314.2	313.3	312.9



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	362.8	362.8	362.8	362.8	362.8	362.3	361.2	360.2	359.1	358.1	358.1
115°	405.7	405.9	406.1	406.3	406.5	406.5	406.3	406.1	405.9	405.7	406.1
117.5°	449.5	450.1	450.8	451.4	452.0	452.3	452.3	452.3	452.3	452.3	452.8
120°	496.1	496.6	497.0	497.4	497.8	498.2	498.4	498.6	498.8	499.0	500.1
122.5°	540.9	541.5	542.2	542.8	543.4	544.1	544.7	545.3	546.0	546.6	547.0
125°	585.7	586.5	587.4	588.2	589.0	589.9	590.7	591.6	592.4	593.3	593.7
127.5°	630.4	631.3	632.1	633.0	633.8	634.9	636.1	637.4	638.7	639.9	640.4
130°	674.2	675.7	677.2	678.7	680.1	681.3	682.2	683.0	683.9	684.7	685.3
132.5°	719.9	721.0	722.0	723.1	724.2	725.2	726.3	727.3	728.4	729.5	729.9
135°	767.5	768.0	768.4	768.8	769.2	769.9	770.7	771.6	772.4	773.3	773.5
137.5°	809.4	810.1	810.7	811.4	812.0	812.8	813.9	814.9	816.0	817.1	816.4
140°	850.4	851.9	853.4	854.8	856.3	857.2	857.4	857.6	857.8	858.0	857.8
142.5°	892.3	893.4	894.4	895.5	896.5	897.2	897.4	897.6	897.8	898.0	897.6
145°	932.3	933.1	934.0	934.8	935.7	936.2	936.4	936.6	936.8	937.1	936.4
147.5°	968.5	969.7	971.0	972.3	973.6	974.2	974.2	974.2	974.2	974.2	973.6
150°	1002.8	1004.0	1005.3	1006.6	1007.8	1008.5	1008.5	1008.5	1008.5	1008.5	1008.1
152.5°	1036.1	1037.2	1038.2	1039.3	1040.3	1040.6	1040.2	1039.8	1039.4	1038.9	1038.7
155°	1065.6	1067.1	1068.6	1070.1	1071.5	1071.9	1071.0	1070.2	1069.3	1068.5	1068.3
157.5°	1093.2	1094.5	1095.8	1097.0	1098.3	1098.5	1097.7	1096.8	1096.0	1095.1	1094.9
160°	1119.9	1120.7	1121.6	1122.4	1123.3	1123.2	1122.1	1121.1	1120.0	1118.9	1118.9
162.5°	1139.9	1141.4	1142.9	1144.3	1145.8	1146.0	1145.0	1143.9	1142.9	1141.8	1141.6
165°	1158.9	1160.4	1161.9	1163.4	1164.9	1165.0	1163.7	1162.4	1161.2	1159.9	1159.9
167.5°	1176.1	1177.3	1178.6	1179.9	1181.2	1181.2	1179.9	1178.6	1177.3	1176.1	1175.9
170°	1188.5	1189.9	1191.4	1192.9	1194.4	1194.4	1192.9	1191.4	1189.9	1188.5	1188.5
172.5°	1198.0	1199.5	1200.9	1202.4	1203.9	1204.0	1202.7	1201.5	1200.2	1198.9	1198.9
175°	1204.6	1206.1	1207.6	1209.1	1210.6	1210.7	1209.4	1208.1	1206.9	1205.6	1205.6
177.5°	1208.5	1209.9	1211.4	1212.9	1214.4	1214.5	1213.2	1211.9	1210.7	1209.4	1209.4
180°	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9
2.5°	3379.8	3371.0	3338.8	3306.5	3269.9	3233.2	3206.1	3178.9	3138.6	3098.3	3065.3
5°	3662.8	3621.8	3553.6	3485.4	3393.0	3300.6	3238.3	3176.0	3092.4	3008.9	2942.1
7.5°	3887.2	3816.8	3721.5	3626.2	3505.2	3384.2	3269.9	3155.5	3027.9	2900.3	2796.2
10°	4030.1	3982.5	3872.5	3762.5	3600.5	3438.5	3278.6	3118.8	2954.6	2790.4	2652.5
12.5°	4044.1	4048.5	3947.3	3846.1	3662.8	3479.5	3285.2	3091.0	2884.2	2677.5	2516.9
15°	3921.6	3997.1	3941.4	3885.7	3700.9	3516.2	3277.2	3038.2	2799.9	2561.6	2376.1
17.5°	3694.3	3856.4	3864.4	3872.5	3687.7	3503.0	3238.3	2973.7	2703.9	2434.1	2239.0
20°	3384.2	3623.2	3705.3	3787.5	3637.2	3486.9	3202.4	2917.9	2615.9	2313.8	2109.3
22.5°	3067.5	3357.8	3508.1	3658.4	3547.0	3435.5	3132.8	2830.0	2511.0	2192.1	1984.6
25°	2706.8	3023.5	3254.5	3485.4	3417.2	3349.0	3050.6	2752.2	2412.8	2073.4	1861.5
27.5°	2392.3	2714.1	2992.7	3271.3	3256.7	3242.0	2945.8	2649.6	2302.1	1954.6	1750.0
30°	2112.2	2412.1	2723.7	3035.2	3071.2	3107.1	2821.2	2535.2	2187.0	1838.7	1641.5
32.5°	1864.4	2126.1	2460.5	2794.8	2865.2	2935.5	2677.5	2419.4	2074.8	1730.2	1540.3
35°	1661.3	1898.9	2233.2	2567.5	2655.5	2743.4	2519.1	2294.8	1959.0	1623.2	1442.1
37.5°	1481.7	1680.4	2006.6	2332.9	2440.7	2548.4	2347.5	2146.7	1832.1	1517.6	1351.2
40°	1332.9	1492.7	1792.6	2092.4	2217.0	2341.7	2176.0	2010.3	1711.9	1413.5	1260.3
42.5°	1208.2	1350.5	1622.5	1894.5	2014.0	2133.5	1993.4	1853.4	1588.0	1322.6	1182.6
45°	1101.9	1215.6	1462.6	1709.7	1823.3	1937.0	1816.7	1696.5	1462.6	1228.8	1098.3
47.5°	1002.2	1099.7	1310.9	1522.0	1623.2	1724.4	1630.5	1536.7	1338.7	1140.8	1022.7
50°	912.8	991.2	1176.0	1360.7	1448.7	1536.7	1453.8	1371.0	1208.2	1045.5	942.8
52.5°	835.1	898.8	1053.5	1208.2	1283.7	1359.3	1288.1	1217.0	1088.0	959.0	869.5
55°	758.1	812.3	946.5	1080.7	1132.0	1183.3	1128.3	1073.3	969.2	865.1	789.6
57.5°	686.2	734.6	844.6	954.6	994.2	1033.7	983.9	934.0	855.6	777.1	714.1
60°	615.8	655.4	747.1	838.7	862.9	887.1	846.8	806.5	751.5	696.5	640.0
62.5°	550.6	586.5	654.7	722.9	739.0	755.1	724.4	693.6	651.8	610.0	566.0
65°	483.1	510.3	566.0	621.7	632.0	642.2	615.1	588.0	556.5	524.9	492.7
67.5°	420.8	439.9	485.3	530.8	531.5	532.3	510.3	488.3	470.7	453.1	427.4
70°	360.0	378.3	408.4	438.4	439.2	439.9	422.3	404.7	391.5	378.3	359.2
72.5°	297.7	310.9	333.6	356.3	354.8	353.4	342.4	331.4	321.1	310.9	296.9
75°	241.2	252.2	267.6	283.0	278.6	274.2	268.3	262.5	253.7	244.9	236.1
77.5°	189.9	196.5	205.3	214.1	211.1	208.2	203.1	198.0	191.4	184.8	181.1
80°	139.3	142.2	148.1	154.0	152.5	151.0	145.2	139.3	137.8	136.4	131.2
82.5°	94.6	98.2	99.7	101.2	100.4	99.7	95.3	90.9	89.4	88.0	87.2
85°	56.5	57.2	57.9	58.7	56.5	54.3	52.8	51.3	51.3	51.3	50.6
87.5°	25.7	26.4	26.4	26.4	25.7	24.9	23.5	22.0	22.7	23.5	23.5
90°	17.4	14.6	11.9	9.4	7.3	5.2	3.1	1.0	3.1	5.2	7.3
92.5°	37.5	36.2	34.9	33.6	32.4	31.1	29.8	28.6	29.8	31.1	32.4
95°	67.1	65.4	63.7	62.1	60.6	59.1	57.7	56.2	57.7	59.1	60.6
97.5°	100.3	99.0	97.8	96.6	95.5	94.5	93.4	92.4	93.4	94.5	95.5
100°	137.9	136.8	135.8	134.6	133.3	132.1	130.8	129.5	130.8	132.1	133.3
102.5°	178.9	177.4	176.0	174.9	174.3	173.6	173.0	172.4	173.0	173.6	174.3
105°	220.9	219.0	217.1	216.0	215.5	215.1	214.7	214.3	214.7	215.1	215.5
107.5°	266.9	266.0	265.2	264.6	264.4	264.2	264.0	263.8	264.0	264.2	264.4
110°	312.5	312.0	311.6	311.2	310.8	310.3	309.9	309.5	309.9	310.3	310.8



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	358.1	358.1	358.1	358.0	357.7	357.5	357.3	357.1	357.3	357.5	357.7
115°	406.5	406.9	407.4	407.3	406.6	406.0	405.4	404.7	405.4	406.0	406.6
117.5°	453.2	453.6	454.0	454.1	453.9	453.7	453.5	453.3	453.5	453.7	453.9
120°	501.1	502.2	503.2	503.1	501.9	500.6	499.3	498.0	499.3	500.6	501.9
122.5°	547.5	547.9	548.3	548.1	547.2	546.4	545.6	544.7	545.6	546.4	547.2
125°	594.1	594.5	595.0	594.9	594.2	593.6	593.0	592.3	593.0	593.6	594.2
127.5°	640.8	641.2	641.6	641.2	639.9	638.7	637.4	636.1	637.4	638.7	639.9
130°	686.0	686.6	687.2	686.7	685.0	683.3	681.6	679.9	681.6	683.3	685.0
132.5°	730.3	730.7	731.1	730.5	728.8	727.1	725.4	723.7	725.4	727.1	728.8
135°	773.7	773.9	774.1	773.6	772.3	771.0	769.8	768.5	769.8	771.0	772.3
137.5°	815.8	815.2	814.5	813.7	812.6	811.6	810.5	809.4	810.5	811.6	812.6
140°	857.6	857.4	857.2	856.5	855.5	854.4	853.4	852.3	853.4	854.4	855.5
142.5°	897.2	896.7	896.3	895.6	894.5	893.5	892.4	891.3	892.4	893.5	894.5
145°	935.8	935.1	934.5	934.0	933.6	933.1	932.7	932.3	932.7	933.1	933.6
147.5°	972.9	972.3	971.7	970.9	970.1	969.2	968.4	967.5	968.4	969.2	970.1
150°	1007.6	1007.2	1006.8	1006.4	1005.9	1005.5	1005.1	1004.7	1005.1	1005.5	1005.9
152.5°	1038.5	1038.3	1038.1	1037.7	1037.0	1036.4	1035.8	1035.1	1035.8	1036.4	1037.0
155°	1068.0	1067.8	1067.6	1067.5	1067.5	1067.5	1067.5	1067.5	1067.5	1067.5	1067.5
157.5°	1094.7	1094.5	1094.3	1094.3	1094.5	1094.7	1094.9	1095.1	1094.9	1094.7	1094.5
160°	1118.9	1118.9	1118.9	1119.2	1119.6	1120.0	1120.4	1120.8	1120.4	1120.0	1119.6
162.5°	1141.4	1141.2	1141.0	1141.2	1141.8	1142.4	1143.1	1143.7	1143.1	1142.4	1141.8
165°	1159.9	1159.9	1159.9	1160.2	1160.8	1161.5	1162.1	1162.7	1162.1	1161.5	1160.8
167.5°	1175.7	1175.4	1175.2	1175.5	1176.4	1177.2	1178.1	1178.9	1178.1	1177.2	1176.4
170°	1188.5	1188.5	1188.5	1188.9	1189.7	1190.6	1191.4	1192.3	1191.4	1190.6	1189.7
172.5°	1198.9	1198.9	1198.9	1199.4	1200.2	1201.1	1201.9	1202.7	1201.9	1201.1	1200.2
175°	1205.6	1205.6	1205.6	1206.0	1206.9	1207.7	1208.6	1209.4	1208.6	1207.7	1206.9
177.5°	1209.4	1209.4	1209.4	1209.8	1210.7	1211.5	1212.4	1213.2	1212.4	1211.5	1210.7
180°	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9	3159.9
2.5°	3032.3	3003.7	2975.1	2953.1	2931.1	2893.7	2856.4	2847.6	2838.8	2826.3	2813.8
5°	2875.4	2805.0	2734.7	2671.6	2608.6	2559.4	2510.3	2478.0	2445.8	2422.3	2398.9
7.5°	2692.1	2586.6	2481.0	2406.2	2331.4	2260.3	2189.2	2166.5	2143.7	2112.9	2082.1
10°	2514.7	2398.1	2281.6	2184.1	2086.5	2016.9	1947.2	1919.4	1891.5	1852.7	1813.8
12.5°	2356.3	2228.8	2101.2	2003.0	1904.7	1837.3	1769.8	1729.5	1689.2	1667.2	1645.2
15°	2190.7	2054.3	1917.9	1827.0	1736.1	1675.2	1614.4	1579.2	1544.0	1522.8	1501.5
17.5°	2044.0	1909.1	1774.2	1687.0	1599.7	1544.0	1488.3	1457.5	1426.7	1410.6	1394.5
20°	1904.7	1772.8	1640.8	1555.7	1470.7	1425.2	1379.8	1360.0	1340.2	1327.0	1313.8
22.5°	1777.2	1647.4	1517.6	1445.0	1372.5	1335.8	1299.1	1285.2	1271.3	1260.3	1249.3
25°	1649.6	1533.8	1417.9	1356.3	1294.7	1264.7	1234.6	1220.7	1206.8	1195.8	1184.8
27.5°	1545.5	1434.8	1324.1	1271.3	1218.5	1195.0	1171.6	1160.6	1149.6	1139.3	1129.1
30°	1444.3	1345.3	1246.4	1200.9	1155.4	1134.2	1112.9	1101.9	1090.9	1081.4	1071.9
32.5°	1350.5	1265.4	1180.4	1138.6	1096.8	1079.2	1061.6	1048.4	1035.2	1027.9	1020.5
35°	1261.0	1184.8	1108.5	1074.1	1039.6	1022.0	1004.4	993.4	982.4	976.6	970.7
37.5°	1184.8	1116.6	1048.4	1015.4	982.4	965.6	948.7	939.2	929.6	927.4	925.2
40°	1107.1	1048.4	989.8	957.5	925.2	910.6	895.9	890.0	884.2	882.7	881.2
42.5°	1042.5	985.4	928.2	898.8	869.5	857.1	844.6	841.7	838.7	840.9	843.1
45°	967.8	920.1	872.4	845.3	818.2	807.9	797.7	795.5	793.3	797.7	802.1
47.5°	904.7	860.7	816.7	791.1	765.4	758.1	750.7	750.0	749.3	755.1	761.0
50°	840.2	797.7	755.1	734.6	714.1	707.5	700.9	703.1	705.3	714.8	724.4
52.5°	780.1	740.5	700.9	681.8	662.8	658.4	654.0	659.1	664.2	674.5	684.8
55°	714.1	678.2	642.2	627.6	612.9	608.5	604.1	614.4	624.6	634.2	643.7
57.5°	651.0	619.5	588.0	574.8	561.6	560.9	560.1	569.7	579.2	589.5	599.7
60°	583.6	557.2	530.8	520.5	510.3	511.7	513.2	524.2	535.2	543.3	551.3
62.5°	522.0	500.0	478.0	468.5	459.0	462.6	466.3	477.3	488.3	497.8	507.3
65°	460.4	442.1	423.8	417.2	410.6	415.7	420.8	430.4	439.9	446.5	453.1
67.5°	401.8	386.4	371.0	365.8	360.7	365.8	371.0	380.5	390.0	396.6	403.2
70°	340.2	327.7	315.3	311.6	307.9	313.8	319.7	327.7	335.8	342.4	349.0
72.5°	283.0	273.5	263.9	263.2	262.5	267.6	272.7	280.8	288.9	293.3	297.7
75°	227.3	222.1	217.0	216.3	215.5	220.7	225.8	230.2	234.6	238.3	241.9
77.5°	177.4	173.0	168.6	169.4	170.1	173.8	177.4	181.8	186.2	188.4	190.6
80°	126.1	124.6	123.2	124.6	126.1	129.0	132.0	134.9	137.8	139.3	140.8
82.5°	86.5	85.0	83.6	85.8	88.0	90.2	92.4	94.6	96.8	97.5	98.2
85°	49.9	52.1	54.3	54.3	54.3	55.0	55.7	56.5	57.2	56.5	55.7
87.5°	23.5	24.2	24.9	24.9	24.9	25.7	26.4	26.4	26.4	25.7	24.9
90°	9.4	11.9	14.6	17.4	20.1	22.9	23.7	24.5	25.4	26.2	26.9
92.5°	33.6	34.9	36.2	37.5	38.7	40.0	40.6	41.3	41.9	42.5	42.6
95°	62.1	63.7	65.4	67.1	68.8	70.5	71.3	72.2	73.0	73.9	74.3
97.5°	96.6	97.8	99.0	100.3	101.6	102.8	103.9	105.0	106.0	107.1	107.5
100°	134.6	135.8	136.8	137.9	138.9	140.0	140.6	141.3	141.9	142.5	143.1
102.5°	174.9	176.0	177.4	178.9	180.4	181.9	182.5	183.2	183.8	184.4	184.6
105°	216.0	217.1	219.0	220.9	222.8	224.7	224.7	224.7	224.7	224.7	225.0
107.5°	264.6	265.2	266.0	266.9	267.7	268.5	269.2	269.8	270.5	271.1	271.3
110°	311.2	311.6	312.0	312.5	312.9	313.3	314.2	315.0	315.8	316.7	316.9



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	358.0	358.1	358.1	358.1	358.1	358.1	359.1	360.2	361.2	362.3	362.8
115°	407.3	407.4	406.9	406.5	406.1	405.7	405.9	406.1	406.3	406.5	406.5
117.5°	454.1	454.0	453.6	453.2	452.8	452.3	452.3	452.3	452.3	452.3	452.0
120°	503.1	503.2	502.2	501.1	500.1	499.0	498.8	498.6	498.4	498.2	497.8
122.5°	548.1	548.3	547.9	547.5	547.0	546.6	546.0	545.3	544.7	544.1	543.4
125°	594.9	595.0	594.5	594.1	593.7	593.3	592.4	591.6	590.7	589.9	589.0
127.5°	641.2	641.6	641.2	640.8	640.4	639.9	638.7	637.4	636.1	634.9	633.8
130°	686.7	687.2	686.6	686.0	685.3	684.7	683.9	683.0	682.2	681.3	680.1
132.5°	730.5	731.1	730.7	730.3	729.9	729.5	728.4	727.3	726.3	725.2	724.2
135°	773.6	774.1	773.9	773.7	773.5	773.3	772.4	771.6	770.7	769.9	769.2
137.5°	813.7	814.5	815.2	815.8	816.4	817.1	816.0	814.9	813.9	812.8	812.0
140°	856.5	857.2	857.4	857.6	857.8	858.0	857.8	857.6	857.4	857.2	856.3
142.5°	895.6	896.3	896.7	897.2	897.6	898.0	897.8	897.6	897.4	897.2	896.5
145°	934.0	934.5	935.1	935.8	936.4	937.1	936.8	936.6	936.4	936.2	935.7
147.5°	970.9	971.7	972.3	972.9	973.6	974.2	974.2	974.2	974.2	974.2	973.6
150°	1006.4	1006.8	1007.2	1007.6	1008.1	1008.5	1008.5	1008.5	1008.5	1008.5	1007.8
152.5°	1037.7	1038.1	1038.3	1038.5	1038.7	1038.9	1039.4	1039.8	1040.2	1040.6	1040.3
155°	1067.5	1067.6	1067.8	1068.0	1068.3	1068.5	1069.3	1070.2	1071.0	1071.9	1071.5
157.5°	1094.3	1094.3	1094.5	1094.7	1094.9	1095.1	1096.0	1096.8	1097.7	1098.5	1098.3
160°	1119.2	1118.9	1118.9	1118.9	1118.9	1118.9	1120.0	1121.1	1122.1	1123.2	1123.3
162.5°	1141.2	1141.0	1141.2	1141.4	1141.6	1141.8	1142.9	1143.9	1145.0	1146.0	1145.8
165°	1160.2	1159.9	1159.9	1159.9	1159.9	1159.9	1161.2	1162.4	1163.7	1165.0	1164.9
167.5°	1175.5	1175.2	1175.4	1175.7	1175.9	1176.1	1177.3	1178.6	1179.9	1181.2	1181.2
170°	1188.9	1188.5	1188.5	1188.5	1188.5	1188.5	1189.9	1191.4	1192.9	1194.4	1194.4
172.5°	1199.4	1198.9	1198.9	1198.9	1198.9	1198.9	1200.2	1201.5	1202.7	1204.0	1203.9
175°	1206.0	1205.6	1205.6	1205.6	1205.6	1205.6	1206.9	1208.1	1209.4	1210.7	1210.6
177.5°	1209.8	1209.4	1209.4	1209.4	1209.4	1209.4	1210.7	1211.9	1213.2	1214.5	1214.4
180°	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3	1212.3



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3159.9	3159.9	3159.9	3159.9
2.5°	2808.7	2803.6	2783.0	2762.5
5°	2381.3	2363.7	2357.8	2351.9
7.5°	2080.7	2079.2	2048.4	2017.6
10°	1816.0	1818.2	1790.4	1762.5
12.5°	1626.9	1608.5	1606.3	1604.1
15°	1484.6	1467.8	1464.8	1461.9
17.5°	1384.2	1373.9	1371.0	1368.1
20°	1307.9	1302.1	1296.9	1291.8
22.5°	1242.0	1234.6	1230.2	1225.8
25°	1178.2	1171.6	1170.1	1168.6
27.5°	1121.0	1112.9	1112.9	1112.9
30°	1066.7	1061.6	1059.4	1057.2
32.5°	1016.1	1011.7	1011.7	1011.7
35°	968.5	966.3	963.4	960.4
37.5°	925.2	925.2	923.8	922.3
40°	883.4	885.6	885.6	885.6
42.5°	845.3	847.5	847.5	847.5
45°	805.7	809.4	810.9	812.3
47.5°	766.9	772.7	774.2	775.7
50°	728.8	733.2	733.9	734.6
52.5°	689.9	695.0	698.7	702.4
55°	648.8	654.0	656.2	658.4
57.5°	604.8	610.0	610.7	611.4
60°	556.5	561.6	563.1	564.5
62.5°	510.3	513.2	514.7	516.1
65°	457.5	461.9	464.8	467.8
67.5°	406.9	410.6	410.6	410.6
70°	350.4	351.9	354.1	356.3
72.5°	298.4	299.1	299.1	299.1
75°	243.4	244.9	245.6	246.3
77.5°	191.4	192.1	192.1	192.1
80°	140.0	139.3	139.3	139.3
82.5°	96.0	93.8	93.8	93.8
85°	55.0	54.3	55.0	55.7
87.5°	24.9	24.9	24.9	24.9
90°	27.3	27.7	28.1	28.6
92.5°	42.2	41.8	41.4	40.9
95°	74.3	74.3	74.3	74.3
97.5°	107.3	107.1	106.9	106.7
100°	143.5	143.9	144.3	144.7
102.5°	184.4	184.2	184.0	183.8
105°	225.4	225.8	226.2	226.6
107.5°	271.1	270.9	270.7	270.5
110°	316.5	316.1	315.6	315.2



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	362.8	362.8	362.8	362.8
115°	406.3	406.1	405.9	405.7
117.5°	451.4	450.8	450.1	449.5
120°	497.4	497.0	496.6	496.1
122.5°	542.8	542.2	541.5	540.9
125°	588.2	587.4	586.5	585.7
127.5°	633.0	632.1	631.3	630.4
130°	678.7	677.2	675.7	674.2
132.5°	723.1	722.0	721.0	719.9
135°	768.8	768.4	768.0	767.5
137.5°	811.4	810.7	810.1	809.4
140°	854.8	853.4	851.9	850.4
142.5°	895.5	894.4	893.4	892.3
145°	934.8	934.0	933.1	932.3
147.5°	972.3	971.0	969.7	968.5
150°	1006.6	1005.3	1004.0	1002.8
152.5°	1039.3	1038.2	1037.2	1036.1
155°	1070.1	1068.6	1067.1	1065.6
157.5°	1097.0	1095.8	1094.5	1093.2
160°	1122.4	1121.6	1120.7	1119.9
162.5°	1144.3	1142.9	1141.4	1139.9
165°	1163.4	1161.9	1160.4	1158.9
167.5°	1179.9	1178.6	1177.3	1176.1
170°	1192.9	1191.4	1189.9	1188.5
172.5°	1202.4	1200.9	1199.5	1198.0
175°	1209.1	1207.6	1206.1	1204.6
177.5°	1212.9	1211.4	1209.9	1208.5
180°	1212.3	1212.3	1212.3	1212.3



TEST NUMBER: P831205

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-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	16.72	17.64	17.60	18.53	19.65	18.96	19.88	19.83	20.76	21.89
	3H	18.38	19.20	19.26	20.09	21.24	20.39	21.21	21.28	22.11	23.25
	4H	18.96	19.73	19.86	20.63	21.79	20.84	21.62	21.74	22.52	23.68
	6H	19.33	20.04	20.24	20.95	22.12	21.12	21.83	22.03	22.74	23.91
	8H	19.43	20.11	20.35	21.03	22.20	21.19	21.86	22.11	22.79	23.96
	12H	19.47	20.12	20.40	21.04	22.23	21.21	21.85	22.13	22.77	23.97
4H	2H	17.31	18.08	18.21	18.98	20.14	19.13	19.91	20.04	20.81	21.97
	3H	19.14	19.78	20.06	20.72	21.89	20.76	21.40	21.67	22.33	23.51
	4H	19.84	20.43	20.77	21.36	22.55	21.34	21.93	22.27	22.86	24.06
	6H	20.32	20.82	21.26	21.78	22.98	21.75	22.25	22.69	23.21	24.41
	8H	20.46	20.93	21.40	21.88	23.09	21.86	22.33	22.80	23.28	24.49
	12H	20.53	20.95	21.49	21.92	23.13	21.91	22.33	22.87	23.30	24.52
8H	4H	20.11	20.58	21.05	21.53	22.74	21.45	21.92	22.39	22.87	24.08
	6H	20.70	21.09	21.67	22.08	23.29	21.96	22.34	22.92	23.33	24.54
	8H	20.91	21.25	21.89	22.23	23.46	22.14	22.48	23.11	23.46	24.69
	12H	21.03	21.34	22.01	22.31	23.59	22.24	22.54	23.22	23.51	24.79
12H	4H	20.11	20.54	21.07	21.50	22.72	21.43	21.85	22.39	22.82	24.03
	6H	20.75	21.10	21.73	22.08	23.30	21.97	22.31	22.95	23.29	24.52
	8H	20.99	21.29	21.97	22.26	23.54	22.17	22.47	23.15	23.45	24.72