

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: P831206

Luminaire Tested: S123DIP-S1165D1025U950-4F0-1E-UDD-G4

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831206
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1025U950-4F0-1E-UDD-G4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: -

Summary

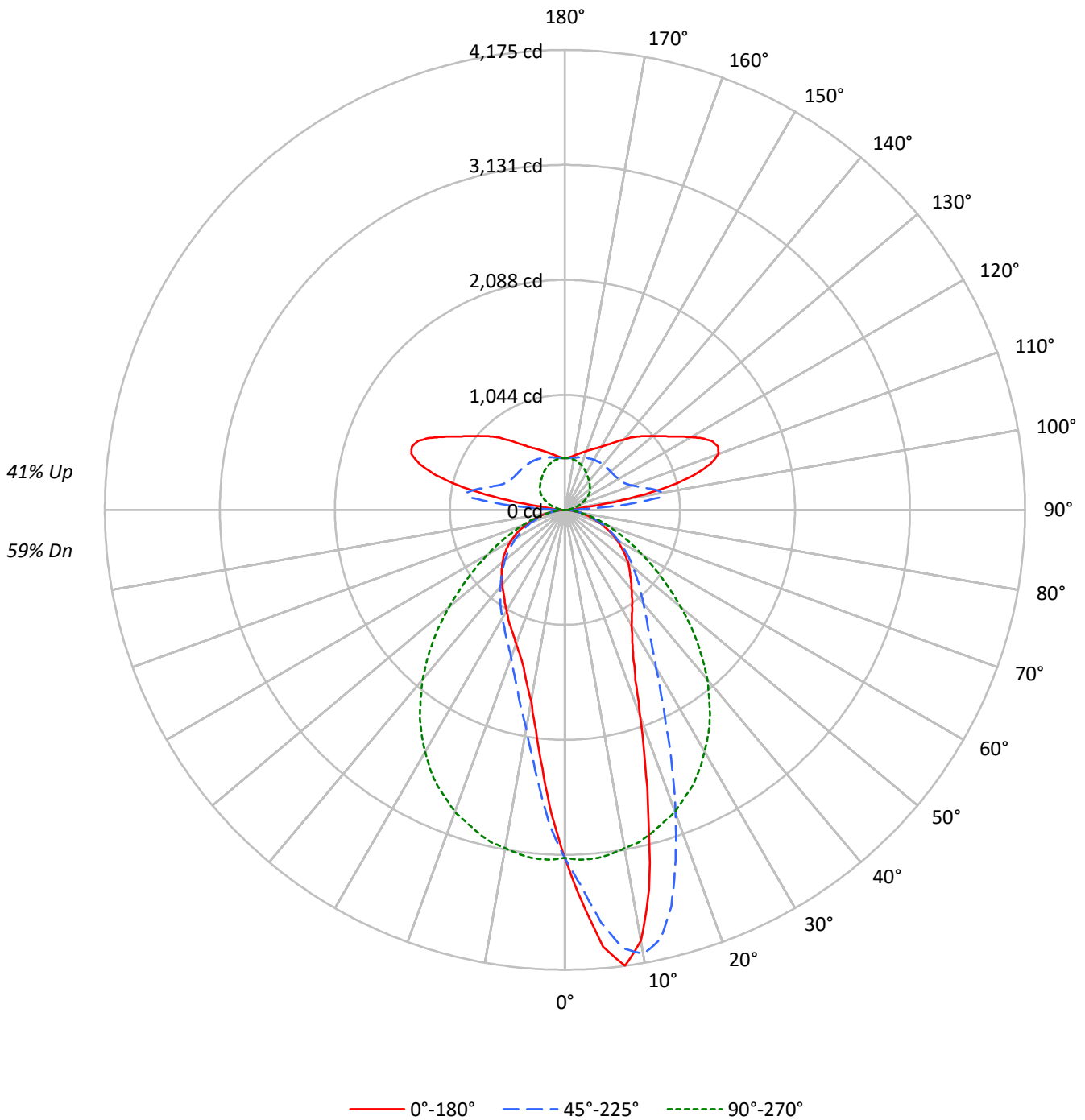
Lumens per Lamp: N/A
Luminaire Lumens: 8620.7 lumens
Efficiency: N/A
Efficacy: 126.6 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 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

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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	102	102	102	102	88	88	88	76	76	76	64	64	64	59				
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56	51				
2	92	85	79	74	86	79	74	70	69	66	62	60	57	55	52	50	48	44				
3	84	75	68	63	79	71	64	59	62	57	53	54	50	47	46	44	42	38				
4	78	67	60	54	72	63	56	51	56	50	46	49	45	41	42	39	36	33				
5	72	60	52	47	67	57	50	45	50	45	40	44	40	36	38	35	32	29				
6	66	55	47	41	62	52	44	39	46	40	36	40	36	32	35	32	29	26				
7	62	50	42	37	58	47	40	35	42	36	32	37	32	29	32	29	26	24				
8	58	45	38	33	54	43	36	31	38	33	29	34	30	26	30	27	24	22				
9	54	42	35	30	50	40	33	28	36	30	26	32	27	24	28	24	22	20				
10	50	39	32	27	47	37	30	26	33	28	24	30	25	22	26	23	20	18				

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.7	3.5
10°-20°	743.2	8.6
20°-30°	880.0	10.2
30°-40°	884.8	10.3
40°-50°	811.8	9.4
50°-60°	670.0	7.8
60°-70°	474.0	5.5
70°-80°	253.0	2.9
80°-90°	66.8	0.8
90°-100°	255.3	3.0
100°-110°	747.4	8.7
110°-120°	729.8	8.5
120°-130°	581.2	6.7
130°-140°	458.6	5.3
140°-150°	342.1	4.0
150°-160°	238.5	2.8
160°-170°	140.1	1.6
170°-180°	45.6	0.5
0°-30°	1921.9	22.3
0°-40°	2806.7	32.6
0°-60°	4288.4	49.7
0°-90°	5082.2	59.0
90°-120°	1732.4	20.1
90°-150°	3114.3	36.1
90°-180°	3539.0	41.1
0°-180°	8620.7	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°	28	24	2	24	28	18
95°	110	565	32	565	110	180
105°	1211	766	110	766	1211	1208
115°	1473	586	195	586	1473	1437
125°	1162	547	271	547	1162	1051
135°	942	539	318	539	942	730
145°	736	532	363	532	736	467
155°	610	515	412	515	610	284
165°	532	493	450	493	532	152
175°	479	473	470	473	479	46
180°	470	470	470	470	470	



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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°	27.6	28.6	27.6	26.7	27.6	25.7	24.8	23.8	22.9	23.8	20.9
92.5°	50.5	52.4	51.4	55.2	57.1	63.8	73.3	94.3	132.4	177.1	196.2
95°	110.5	114.3	120.9	129.5	147.6	181.9	232.4	342.8	458.0	564.7	502.8
97.5°	226.6	237.1	260.0	296.2	360.0	468.5	594.2	787.5	898.0	868.5	648.5
100°	597.1	596.1	633.3	702.8	798.9	934.2	1045.6	1122.7	1089.4	901.8	609.4
102.5°	945.6	973.2	1002.7	1054.2	1123.7	1197.0	1250.3	1234.1	1098.9	839.9	552.3
105°	1211.3	1216.0	1246.5	1282.7	1326.5	1351.3	1333.2	1237.9	1038.9	765.6	507.6
107.5°	1384.6	1395.1	1407.4	1424.6	1430.3	1404.6	1330.3	1180.8	953.2	699.9	475.2
110°	1483.6	1485.5	1487.4	1479.8	1453.2	1386.5	1266.5	1091.3	873.2	645.6	458.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1503.6	1502.7	1493.1	1465.5	1411.3	1320.8	1182.7	1002.7	803.7	609.4	448.5
115°	1473.2	1468.4	1449.3	1407.4	1336.0	1232.2	1092.2	926.6	750.4	585.6	447.6
117.5°	1406.5	1399.8	1371.3	1324.6	1250.3	1142.7	1014.2	867.5	715.1	569.5	448.5
120°	1318.9	1313.2	1290.3	1237.0	1161.8	1065.6	951.3	822.8	688.5	559.0	452.3
122.5°	1237.0	1229.4	1203.7	1157.0	1092.2	1004.6	900.8	787.5	666.6	552.3	459.0
125°	1161.8	1155.1	1131.3	1089.4	1028.4	952.3	860.8	757.0	648.5	546.6	465.7
127.5°	1097.0	1091.3	1069.4	1033.2	978.0	907.5	823.7	729.4	631.4	543.7	473.3
130°	1043.7	1036.1	1016.1	981.8	931.3	866.6	789.4	703.7	618.0	540.9	480.9
132.5°	991.3	986.5	969.4	935.1	888.5	827.5	757.0	679.9	605.6	539.9	486.6
135°	941.8	935.1	918.0	889.4	842.8	788.5	726.6	659.0	595.2	539.0	492.3
137.5°	889.4	883.7	869.4	839.9	799.9	751.3	696.1	639.0	585.6	537.1	496.1
140°	834.2	835.1	819.9	793.2	757.0	716.1	670.4	621.8	577.1	536.1	499.9
142.5°	782.8	783.7	770.4	747.5	718.0	683.7	645.6	605.6	569.5	534.2	502.8
145°	736.1	734.2	726.6	706.6	682.8	655.2	624.7	593.3	562.8	532.3	503.7
147.5°	696.1	695.2	687.5	673.2	654.2	634.2	608.5	582.8	556.1	529.5	503.7
150°	661.8	661.8	656.1	645.6	631.4	613.3	593.3	571.4	549.5	525.6	503.7
152.5°	633.3	633.3	630.4	620.9	610.4	596.1	579.0	560.9	541.8	520.9	500.9
155°	610.4	609.4	607.5	599.9	591.4	579.9	565.6	550.4	534.2	515.2	499.0
157.5°	588.5	588.5	586.6	580.9	573.3	563.7	552.3	539.0	525.6	510.4	496.1
160°	567.5	568.5	568.5	562.8	556.1	549.5	539.9	529.5	517.1	504.7	494.2
162.5°	548.5	549.5	549.5	544.7	540.9	535.2	526.6	518.0	508.5	499.0	490.4
165°	532.3	532.3	533.3	529.5	525.6	520.9	514.2	508.5	500.9	493.3	486.6
167.5°	516.1	516.1	517.1	514.2	512.3	508.5	504.7	499.9	493.3	487.6	482.8
170°	501.8	501.8	502.8	500.9	499.9	498.0	494.2	491.4	486.6	481.8	479.0
172.5°	488.5	489.5	491.4	489.5	489.5	488.5	485.7	483.7	479.9	477.1	476.1
175°	479.0	479.9	480.9	479.9	479.9	479.9	478.0	477.1	475.2	473.3	473.3
177.5°	472.3	472.3	474.2	473.3	474.2	474.2	473.3	472.3	471.4	470.4	471.4
180°	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4



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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°	18.1	15.2	12.4	10.5	8.6	5.7	3.8	1.9	3.8	5.7	8.6
92.5°	146.6	96.2	65.7	48.6	39.0	30.5	20.9	14.3	20.9	30.5	39.0
95°	346.6	204.7	123.8	86.7	61.9	45.7	35.2	32.4	35.2	45.7	61.9
97.5°	385.7	220.9	140.9	100.0	75.2	60.9	52.4	51.4	52.4	60.9	75.2
100°	359.0	218.1	151.4	114.3	91.4	78.1	71.4	70.5	71.4	78.1	91.4
102.5°	336.1	221.9	163.8	130.5	110.5	98.1	92.4	90.5	92.4	98.1	110.5
105°	327.6	229.5	178.1	148.6	130.5	119.0	113.3	110.5	113.3	119.0	130.5
107.5°	325.7	241.9	196.2	168.6	151.4	140.0	134.3	131.4	134.3	140.0	151.4
110°	330.4	258.1	215.2	188.5	172.4	161.9	157.1	154.3	157.1	161.9	172.4



TEST NUMBER: P831206

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	340.0	274.3	235.2	209.5	193.3	182.8	178.1	175.2	178.1	182.8	193.3
115°	350.4	292.3	256.2	230.4	214.3	204.7	199.0	195.2	199.0	204.7	214.3
117.5°	363.8	311.4	275.2	251.4	233.3	224.7	220.0	215.2	220.0	224.7	233.3
120°	379.0	329.5	295.2	271.4	253.3	243.8	239.0	236.2	239.0	243.8	253.3
122.5°	393.3	348.5	315.2	289.5	272.3	261.9	257.1	254.3	257.1	261.9	272.3
125°	408.5	366.6	333.3	307.6	289.5	279.0	273.3	271.4	273.3	279.0	289.5
127.5°	420.9	382.8	350.4	324.7	304.7	294.2	287.6	284.7	287.6	294.2	304.7
130°	433.3	397.1	365.7	340.0	320.0	308.5	300.0	297.1	300.0	308.5	320.0
132.5°	444.7	409.5	379.0	354.2	334.2	320.0	310.4	306.6	310.4	320.0	334.2
135°	454.2	421.9	392.3	366.6	346.6	332.3	321.9	318.1	321.9	332.3	346.6
137.5°	461.8	430.4	401.9	378.0	358.1	342.8	332.3	328.5	332.3	342.8	358.1
140°	467.6	439.0	411.4	387.6	368.5	353.3	343.8	339.0	343.8	353.3	368.5
142.5°	473.3	445.7	419.0	397.1	378.0	364.7	354.2	350.4	354.2	364.7	378.0
145°	477.1	451.4	426.6	404.7	388.5	374.2	365.7	362.8	365.7	374.2	388.5
147.5°	479.9	456.1	433.3	414.2	398.0	385.7	377.1	375.2	377.1	385.7	398.0
150°	480.9	460.9	439.0	421.9	408.5	396.1	388.5	387.6	388.5	396.1	408.5
152.5°	482.8	463.8	445.7	429.5	418.0	407.6	400.0	400.0	400.0	407.6	418.0
155°	482.8	467.6	451.4	438.0	427.6	418.0	412.3	412.3	412.3	418.0	427.6
157.5°	483.7	469.5	456.1	445.7	436.1	427.6	422.8	421.9	422.8	427.6	436.1
160°	483.7	472.3	460.9	451.4	444.7	437.1	433.3	433.3	433.3	437.1	444.7
162.5°	482.8	473.3	463.8	456.1	450.4	444.7	441.8	441.8	441.8	444.7	450.4
165°	480.9	474.2	466.6	459.9	456.1	451.4	449.5	450.4	449.5	451.4	456.1
167.5°	479.9	474.2	468.5	463.8	460.9	457.1	456.1	457.1	456.1	457.1	460.9
170°	477.1	473.3	468.5	466.6	464.7	461.8	460.9	462.8	460.9	461.8	464.7
172.5°	476.1	473.3	469.5	468.5	467.6	465.7	465.7	466.6	465.7	465.7	467.6
175°	474.2	472.3	470.4	469.5	469.5	467.6	468.5	469.5	468.5	467.6	469.5
177.5°	473.3	471.4	470.4	470.4	470.4	469.5	470.4	471.4	470.4	469.5	470.4
180°	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4



TEST NUMBER: P831206

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G4

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°	10.5	12.4	15.2	18.1	20.9	23.8	22.9	23.8	24.8	25.7	27.6
92.5°	48.6	65.7	96.2	146.6	196.2	177.1	132.4	94.3	73.3	63.8	57.1
95°	86.7	123.8	204.7	346.6	502.8	564.7	458.0	342.8	232.4	181.9	147.6
97.5°	100.0	140.9	220.9	385.7	648.5	868.5	898.0	787.5	594.2	468.5	360.0
100°	114.3	151.4	218.1	359.0	609.4	901.8	1089.4	1122.7	1045.6	934.2	798.9
102.5°	130.5	163.8	221.9	336.1	552.3	839.9	1098.9	1234.1	1250.3	1197.0	1123.7
105°	148.6	178.1	229.5	327.6	507.6	765.6	1038.9	1237.9	1333.2	1351.3	1326.5
107.5°	168.6	196.2	241.9	325.7	475.2	699.9	953.2	1180.8	1330.3	1404.6	1430.3
110°	188.5	215.2	258.1	330.4	458.0	645.6	873.2	1091.3	1266.5	1386.5	1453.2



TEST NUMBER: P831206

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	209.5	235.2	274.3	340.0	448.5	609.4	803.7	1002.7	1182.7	1320.8	1411.3
115°	230.4	256.2	292.3	350.4	447.6	585.6	750.4	926.6	1092.2	1232.2	1336.0
117.5°	251.4	275.2	311.4	363.8	448.5	569.5	715.1	867.5	1014.2	1142.7	1250.3
120°	271.4	295.2	329.5	379.0	452.3	559.0	688.5	822.8	951.3	1065.6	1161.8
122.5°	289.5	315.2	348.5	393.3	459.0	552.3	666.6	787.5	900.8	1004.6	1092.2
125°	307.6	333.3	366.6	408.5	465.7	546.6	648.5	757.0	860.8	952.3	1028.4
127.5°	324.7	350.4	382.8	420.9	473.3	543.7	631.4	729.4	823.7	907.5	978.0
130°	340.0	365.7	397.1	433.3	480.9	540.9	618.0	703.7	789.4	866.6	931.3
132.5°	354.2	379.0	409.5	444.7	486.6	539.9	605.6	679.9	757.0	827.5	888.5
135°	366.6	392.3	421.9	454.2	492.3	539.0	595.2	659.0	726.6	788.5	842.8
137.5°	378.0	401.9	430.4	461.8	496.1	537.1	585.6	639.0	696.1	751.3	799.9
140°	387.6	411.4	439.0	467.6	499.9	536.1	577.1	621.8	670.4	716.1	757.0
142.5°	397.1	419.0	445.7	473.3	502.8	534.2	569.5	605.6	645.6	683.7	718.0
145°	404.7	426.6	451.4	477.1	503.7	532.3	562.8	593.3	624.7	655.2	682.8
147.5°	414.2	433.3	456.1	479.9	503.7	529.5	556.1	582.8	608.5	634.2	654.2
150°	421.9	439.0	460.9	480.9	503.7	525.6	549.5	571.4	593.3	613.3	631.4
152.5°	429.5	445.7	463.8	482.8	500.9	520.9	541.8	560.9	579.0	596.1	610.4
155°	438.0	451.4	467.6	482.8	499.0	515.2	534.2	550.4	565.6	579.9	591.4
157.5°	445.7	456.1	469.5	483.7	496.1	510.4	525.6	539.0	552.3	563.7	573.3
160°	451.4	460.9	472.3	483.7	494.2	504.7	517.1	529.5	539.9	549.5	556.1
162.5°	456.1	463.8	473.3	482.8	490.4	499.0	508.5	518.0	526.6	535.2	540.9
165°	459.9	466.6	474.2	480.9	486.6	493.3	500.9	508.5	514.2	520.9	525.6
167.5°	463.8	468.5	474.2	479.9	482.8	487.6	493.3	499.9	504.7	508.5	512.3
170°	466.6	468.5	473.3	477.1	479.0	481.8	486.6	491.4	494.2	498.0	499.9
172.5°	468.5	469.5	473.3	476.1	476.1	477.1	479.9	483.7	485.7	488.5	489.5
175°	469.5	470.4	472.3	474.2	473.3	473.3	475.2	477.1	478.0	479.9	479.9
177.5°	470.4	470.4	471.4	473.3	471.4	470.4	471.4	472.3	473.3	474.2	474.2
180°	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4	470.4



TEST NUMBER: P831206

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G4

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°	26.7	27.6	28.6	27.6
92.5°	55.2	51.4	52.4	50.5
95°	129.5	120.9	114.3	110.5
97.5°	296.2	260.0	237.1	226.6
100°	702.8	633.3	596.1	597.1
102.5°	1054.2	1002.7	973.2	945.6
105°	1282.7	1246.5	1216.0	1211.3
107.5°	1424.6	1407.4	1395.1	1384.6
110°	1479.8	1487.4	1485.5	1483.6

TEST NUMBER: P831206

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G4

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	1465.5	1493.1	1502.7	1503.6
115°	1407.4	1449.3	1468.4	1473.2
117.5°	1324.6	1371.3	1399.8	1406.5
120°	1237.0	1290.3	1313.2	1318.9
122.5°	1157.0	1203.7	1229.4	1237.0
125°	1089.4	1131.3	1155.1	1161.8
127.5°	1033.2	1069.4	1091.3	1097.0
130°	981.8	1016.1	1036.1	1043.7
132.5°	935.1	969.4	986.5	991.3
135°	889.4	918.0	935.1	941.8
137.5°	839.9	869.4	883.7	889.4
140°	793.2	819.9	835.1	834.2
142.5°	747.5	770.4	783.7	782.8
145°	706.6	726.6	734.2	736.1
147.5°	673.2	687.5	695.2	696.1
150°	645.6	656.1	661.8	661.8
152.5°	620.9	630.4	633.3	633.3
155°	599.9	607.5	609.4	610.4
157.5°	580.9	586.6	588.5	588.5
160°	562.8	568.5	568.5	567.5
162.5°	544.7	549.5	549.5	548.5
165°	529.5	533.3	532.3	532.3
167.5°	514.2	517.1	516.1	516.1
170°	500.9	502.8	501.8	501.8
172.5°	489.5	491.4	489.5	488.5
175°	479.9	480.9	479.9	479.0
177.5°	473.3	474.2	472.3	472.3
180°	470.4	470.4	470.4	470.4



TEST NUMBER: P831206

CATALOG NUMBER: S123DIP-S1165D1025U950-4F0-1E-UDD-G4

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	16.62	17.52	17.50	18.42	19.56	18.86	19.76	19.74	20.66	21.80
	3H	18.27	19.08	19.17	19.99	21.15	20.28	21.09	21.18	22.00	23.17
	4H	18.85	19.61	19.76	20.53	21.70	20.74	21.50	21.65	22.41	23.59
	6H	19.22	19.92	20.14	20.85	22.03	21.01	21.72	21.94	22.64	23.83
	8H	19.32	19.99	20.25	20.93	22.11	21.08	21.75	22.01	22.68	23.87
	12H	19.37	20.00	20.30	20.93	22.15	21.10	21.73	22.03	22.67	23.88
4H	2H	17.20	17.96	18.12	18.88	20.05	19.02	19.79	19.94	20.70	21.88
	3H	19.03	19.67	19.96	20.61	21.80	20.65	21.28	21.57	22.23	23.42
	4H	19.73	20.31	20.67	21.25	22.47	21.23	21.81	22.17	22.75	23.97
	6H	20.21	20.71	21.16	21.67	22.89	21.64	22.14	22.59	23.10	24.32
	8H	20.35	20.81	21.30	21.77	23.00	21.75	22.22	22.70	23.18	24.41
	12H	20.42	20.83	21.39	21.81	23.04	21.80	22.22	22.77	23.19	24.43
8H	4H	20.00	20.47	20.95	21.42	22.65	21.34	21.81	22.29	22.76	23.99
	6H	20.59	20.98	21.57	21.98	23.20	21.85	22.23	22.82	23.23	24.46
	8H	20.80	21.14	21.79	22.13	23.37	22.02	22.36	23.01	23.35	24.60
	12H	20.92	21.22	21.91	22.20	23.50	22.13	22.43	23.12	23.41	24.70
12H	4H	20.00	20.42	20.97	21.40	22.63	21.32	21.74	22.29	22.71	23.95
	6H	20.64	20.98	21.63	21.97	23.22	21.86	22.20	22.85	23.19	24.43
	8H	20.88	21.18	21.87	22.16	23.45	22.06	22.36	23.05	23.34	24.64