

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: P831225

Luminaire Tested: S123DIP-S1165D1195U935-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831225
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-S1165D1195U935-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

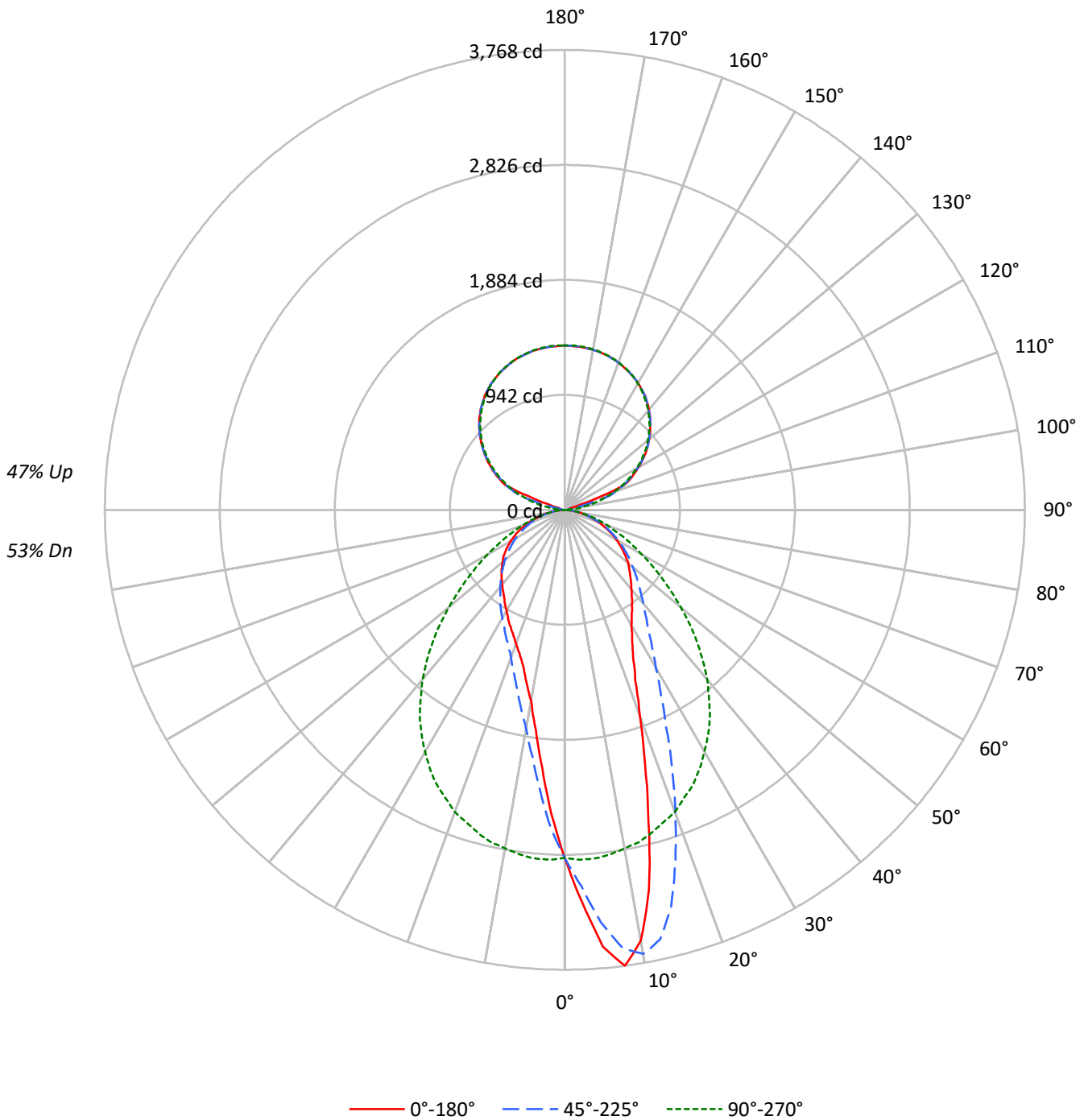
Lumens per Lamp: N/A
Luminaire Lumens: 8691.6 lumens
Efficiency: N/A
Efficacy: 118.7 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 73.2
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: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				
1	99	95	91	88	92	88	85	82	75	73	71	63	62	60	53	52	51	46				
2	91	83	78	73	84	78	73	68	67	63	60	56	54	51	47	45	44	39				
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	42	40	38	34				
4	76	66	58	53	71	62	55	50	53	48	44	46	42	39	38	36	33	30				
5	70	59	51	46	65	55	48	43	48	43	39	41	37	34	35	32	29	26				
6	65	53	46	40	60	50	43	38	44	38	34	38	33	30	32	29	26	24				
7	61	49	41	36	56	46	39	34	40	34	30	35	30	27	30	26	24	21				
8	56	44	37	32	52	42	35	30	37	31	27	32	28	25	27	24	22	19				
9	53	41	34	29	49	38	32	27	34	29	25	30	25	22	25	22	20	18				
10	49	38	31	26	46	36	29	25	31	26	23	28	23	20	24	21	18	16				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	30697	30697	30697	30697	30697
5°	38821	36641	30972	24959	22936
10°	39198	40384	30766	19896	17386
15°	29524	37494	30556	16848	14703
20°	20570	30340	30166	14734	13355
25°	15686	23332	29500	13556	12526
30°	13570	18537	28439	12722	11859
35°	12590	15650	27215	12121	11390
40°	11920	14039	25493	11547	11231
45°	11523	12994	23307	11100	11160
50°	11323	12166	20719	10692	11102
55°	10903	11560	18179	10306	11151
60°	10512	10910	15668	9944	10968
65°	9875	10297	13517	9556	10753
70°	9120	9517	11493	8913	10121
75°	8255	8530	9852	8284	9245
80°	6806	7463	7792	7221	7792
85°	5397	6052	5718	6126	6212

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 26612 cd/sqm



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.6	3.1
10°-20°	670.7	7.7
20°-30°	794.2	9.1
30°-40°	798.5	9.2
40°-50°	732.6	8.4
50°-60°	604.7	7.0
60°-70°	427.7	4.9
70°-80°	228.3	2.6
80°-90°	60.6	0.7
90°-100°	47.5	0.5
100°-110°	229.5	2.6
110°-120°	562.5	6.5
120°-130°	714.1	8.2
130°-140°	762.9	8.8
140°-150°	713.4	8.2
150°-160°	575.4	6.6
160°-170°	371.3	4.3
170°-180°	128.0	1.5
0°-30°	1734.5	20.0
0°-40°	2533.1	29.1
0°-60°	3870.4	44.5
0°-90°	4587.1	52.8
90°-120°	839.4	9.7
90°-150°	3029.8	34.9
90°-180°	4105.0	47.2
0°-180°	8691.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2852	2852	2852	2852	2852	
5°	3593	3391	2866	2310	2123	342
15°	2649	3365	2742	1512	1319	732
25°	1321	1964	2484	1141	1055	623
35°	958	1191	2071	922	867	602
45°	757	854	1531	729	733	586
55°	581	616	969	549	594	520
65°	388	404	531	375	422	385
75°	198	205	237	199	222	209
85°	44	49	46	50	50	49
90°	30	24	1	24	30	16
95°	38	31	61	31	38	32
105°	44	219	298	219	44	92
115°	588	574	559	574	588	553
125°	804	800	788	800	804	719
135°	991	991	981	991	991	765
145°	1143	1141	1132	1141	1143	714
155°	1245	1246	1247	1246	1245	574
165°	1312	1311	1315	1311	1312	371
175°	1341	1342	1346	1342	1341	128
180°	1346	1346	1346	1346	1346	



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8
2.5°	3214.4	3211.1	3207.8	3191.3	3174.7	3166.8	3158.9	3135.0	3111.2	3084.7	3058.3
5°	3592.9	3602.2	3611.4	3600.9	3590.3	3557.8	3525.4	3482.4	3439.4	3391.1	3342.8
7.5°	3767.6	3772.9	3778.2	3771.6	3764.9	3756.3	3747.7	3709.4	3671.0	3621.4	3571.7
10°	3586.3	3598.2	3610.1	3635.9	3661.7	3690.8	3720.0	3714.7	3709.4	3694.8	3680.3
12.5°	3188.0	3202.5	3217.1	3268.7	3320.3	3386.5	3452.6	3509.5	3566.4	3606.1	3645.8
15°	2649.4	2689.7	2730.1	2777.1	2824.0	2921.3	3018.6	3138.3	3258.1	3364.6	3471.2
17.5°	2182.2	2197.4	2212.7	2262.9	2313.2	2435.6	2558.0	2696.3	2834.6	3011.3	3188.0
20°	1795.8	1809.7	1823.6	1889.8	1955.9	2051.9	2147.8	2303.3	2458.8	2648.7	2838.6
22.5°	1508.6	1530.5	1552.3	1589.4	1626.4	1718.4	1810.4	1948.6	2086.9	2296.7	2506.4
25°	1320.7	1336.6	1352.5	1375.0	1397.5	1470.9	1544.4	1658.2	1772.0	1964.5	2157.1
27.5°	1192.3	1199.0	1205.6	1228.1	1250.6	1298.2	1345.9	1443.8	1541.7	1705.1	1868.6
30°	1091.8	1096.4	1101.0	1120.9	1140.7	1173.2	1205.6	1276.4	1347.2	1491.4	1635.7
32.5°	1021.6	1024.9	1028.2	1043.5	1058.7	1081.8	1105.0	1156.6	1208.2	1327.3	1446.4
35°	958.1	960.1	962.1	973.3	984.6	1001.8	1019.0	1058.0	1097.1	1191.0	1285.0
37.5°	902.5	905.2	907.8	914.4	921.1	936.3	951.5	982.6	1013.7	1085.8	1157.9
40°	848.3	852.9	857.5	862.2	866.8	879.4	891.9	915.8	939.6	999.1	1058.7
42.5°	802.0	806.6	811.2	813.2	815.2	822.5	829.7	851.6	873.4	917.7	962.1
45°	757.0	758.9	760.9	762.9	764.9	770.9	776.8	796.0	815.2	853.6	891.9
47.5°	715.9	715.9	715.9	717.3	718.6	723.9	729.2	743.1	757.0	786.7	816.5
50°	676.2	676.2	676.2	674.3	672.3	675.6	678.9	689.5	700.1	726.5	753.0
52.5°	628.6	628.6	628.6	629.3	629.9	629.9	629.9	639.2	648.4	672.3	696.1
55°	581.0	583.6	586.2	584.3	582.3	583.6	584.9	590.9	596.8	616.0	635.2
57.5°	533.3	534.6	536.0	535.3	534.6	535.3	536.0	541.3	546.5	561.1	575.7
60°	488.3	488.3	488.3	487.0	485.7	487.0	488.3	491.0	493.6	506.8	520.1
62.5°	438.0	438.7	439.4	440.0	440.7	439.4	438.0	441.3	444.6	454.6	464.5
65°	387.7	388.4	389.1	391.1	393.0	391.7	390.4	393.7	397.0	404.3	411.6
67.5°	342.7	341.4	340.1	340.8	341.4	343.4	345.4	346.1	346.7	354.7	362.6
70°	289.8	291.1	292.5	291.8	291.1	291.8	292.5	294.4	296.4	302.4	308.3
72.5°	242.2	242.8	243.5	243.5	243.5	244.8	246.1	248.1	250.1	253.4	256.7
75°	198.5	198.5	198.5	199.8	201.2	201.8	202.5	202.5	202.5	205.1	207.8
77.5°	150.9	154.2	157.5	156.8	156.2	157.5	158.8	160.8	162.8	164.1	165.4
80°	109.8	109.8	109.8	110.5	111.2	113.1	115.1	116.5	117.8	120.4	123.1
82.5°	70.1	70.8	71.5	73.4	75.4	76.8	78.1	80.1	82.0	82.0	82.0
85°	43.7	42.3	41.0	42.3	43.7	45.0	46.3	47.0	47.6	49.0	50.3
87.5°	21.2	21.2	21.2	21.2	21.2	21.8	22.5	22.5	22.5	22.5	22.5
90°	30.0	29.6	29.1	28.7	28.2	27.6	26.7	25.8	24.9	24.0	21.1
92.5°	34.0	33.8	33.6	33.3	33.1	32.2	30.7	29.1	27.6	26.0	24.0
95°	38.0	38.0	38.0	38.0	38.0	37.2	35.7	34.1	32.6	31.0	28.6
97.5°	41.0	40.8	40.6	40.3	40.1	39.1	37.3	35.6	33.8	32.0	43.3
100°	42.0	41.8	41.6	41.3	41.1	40.1	38.3	36.6	34.8	33.0	67.7
102.5°	43.0	42.6	42.1	41.7	41.2	44.7	52.0	59.4	66.7	74.0	112.7
105°	44.0	43.6	43.1	42.7	42.2	61.7	101.0	140.4	179.7	219.1	239.1
107.5°	104.0	133.2	162.3	191.4	220.5	252.2	286.4	320.7	354.9	389.1	385.8
110°	275.1	306.9	338.7	370.5	402.2	421.8	429.1	436.5	443.8	451.1	448.7



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	521.2	521.6	522.1	522.5	522.9	522.2	520.2	518.2	516.2	514.2	511.7
115°	588.2	587.3	586.4	585.5	584.6	583.1	580.9	578.6	576.4	574.2	572.2
117.5°	642.2	642.0	641.8	641.5	641.3	640.3	638.5	636.8	635.0	633.2	632.1
120°	698.2	698.2	698.2	698.2	698.2	697.3	695.6	693.8	692.0	690.2	689.6
122.5°	753.2	753.0	752.8	752.6	752.3	751.7	750.6	749.5	748.3	747.2	746.3
125°	804.3	803.8	803.4	802.9	802.5	802.0	801.6	801.1	800.7	800.3	799.4
127.5°	854.3	854.7	855.2	855.6	856.0	855.9	855.3	854.6	853.9	853.3	852.2
130°	902.3	902.7	903.2	903.6	904.1	903.8	903.0	902.1	901.2	900.3	899.4
132.5°	946.3	947.0	947.6	948.3	949.0	948.9	948.0	947.1	946.2	945.3	944.6
135°	991.3	992.0	992.6	993.3	994.0	994.0	993.3	992.6	992.0	991.3	990.4
137.5°	1034.3	1034.8	1035.2	1035.7	1036.1	1035.8	1034.7	1033.5	1032.4	1031.3	1030.9
140°	1072.3	1072.8	1073.2	1073.7	1074.1	1073.9	1073.0	1072.1	1071.2	1070.3	1069.7
142.5°	1107.3	1108.0	1108.7	1109.4	1110.0	1110.0	1109.4	1108.7	1108.0	1107.3	1106.7
145°	1143.4	1143.4	1143.4	1143.4	1143.4	1143.1	1142.7	1142.2	1141.8	1141.4	1140.9
147.5°	1169.4	1170.5	1171.6	1172.7	1173.8	1174.1	1173.7	1173.3	1172.8	1172.4	1171.9
150°	1199.4	1200.0	1200.7	1201.4	1202.0	1202.2	1201.7	1201.3	1200.8	1200.4	1199.9
152.5°	1223.4	1224.5	1225.6	1226.7	1227.8	1227.9	1227.1	1226.2	1225.3	1224.4	1224.2
155°	1245.4	1246.7	1248.1	1249.4	1250.7	1250.8	1249.7	1248.6	1247.5	1246.4	1246.2
157.5°	1264.4	1266.2	1268.0	1269.7	1271.5	1271.7	1270.4	1269.1	1267.7	1266.4	1266.6
160°	1282.4	1284.0	1285.5	1287.1	1288.6	1288.7	1287.4	1286.1	1284.7	1283.4	1283.6
162.5°	1299.4	1300.7	1302.1	1303.4	1304.7	1304.6	1303.1	1301.5	1300.0	1298.4	1298.6
165°	1312.4	1314.0	1315.5	1317.1	1318.6	1318.5	1316.7	1315.0	1313.2	1311.4	1311.6
167.5°	1322.4	1324.2	1326.0	1327.8	1329.5	1329.5	1327.8	1326.0	1324.2	1322.4	1322.4
170°	1331.4	1333.2	1335.0	1336.8	1338.5	1338.5	1336.8	1335.0	1333.2	1331.4	1331.4
172.5°	1336.4	1338.4	1340.4	1342.4	1344.4	1344.5	1342.8	1341.0	1339.2	1337.4	1337.2
175°	1341.4	1343.2	1345.0	1346.8	1348.5	1348.6	1347.1	1345.5	1344.0	1342.4	1342.2
177.5°	1342.4	1344.6	1346.9	1349.1	1351.3	1351.5	1349.8	1348.0	1346.2	1344.4	1344.2
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8
2.5°	3050.3	3042.4	3013.3	2984.2	2951.1	2918.0	2893.5	2869.0	2832.6	2796.3	2766.5
5°	3305.7	3268.7	3207.2	3145.6	3062.2	2978.9	2922.6	2866.4	2791.0	2715.5	2655.3
7.5°	3508.2	3444.7	3358.7	3272.7	3163.5	3054.3	2951.1	2847.9	2732.7	2617.6	2523.6
10°	3637.2	3594.2	3495.0	3395.7	3249.5	3103.3	2959.0	2814.8	2666.6	2518.3	2394.0
12.5°	3649.8	3653.8	3562.5	3471.2	3305.7	3140.3	2965.0	2789.6	2603.0	2416.4	2271.5
15°	3539.3	3607.5	3557.2	3506.9	3340.2	3173.4	2957.7	2742.0	2526.9	2311.9	2144.5
17.5°	3334.2	3480.4	3487.7	3495.0	3328.2	3161.5	2922.6	2683.8	2440.3	2196.8	2020.8
20°	3054.3	3270.0	3344.1	3418.2	3282.6	3146.9	2890.2	2633.5	2360.9	2088.3	1903.6
22.5°	2768.5	3030.5	3166.1	3301.8	3201.2	3100.6	2827.4	2554.1	2266.2	1978.4	1791.2
25°	2442.9	2728.8	2937.2	3145.6	3084.1	3022.5	2753.2	2483.9	2177.6	1871.2	1680.0
27.5°	2159.1	2449.5	2701.0	2952.4	2939.2	2925.9	2658.6	2391.3	2077.7	1764.0	1579.4
30°	1906.3	2176.9	2458.1	2739.3	2771.8	2804.2	2546.1	2288.1	1973.8	1659.5	1481.5
32.5°	1682.6	1918.9	2220.6	2522.3	2585.8	2649.4	2416.4	2183.5	1872.5	1561.6	1390.2
35°	1499.4	1713.7	2015.5	2317.2	2396.6	2476.0	2273.5	2071.1	1768.0	1465.0	1301.5
37.5°	1337.3	1516.6	1811.0	2105.5	2202.7	2300.0	2118.7	1937.4	1653.5	1369.7	1219.5
40°	1202.9	1347.2	1617.8	1888.4	2000.9	2113.4	1963.9	1814.3	1545.0	1275.7	1137.4
42.5°	1090.4	1218.8	1464.3	1709.8	1817.6	1925.5	1799.1	1672.7	1433.2	1193.7	1067.3
45°	994.5	1097.1	1320.0	1543.0	1645.6	1748.2	1639.6	1531.1	1320.0	1109.0	991.2
47.5°	904.5	992.5	1183.1	1373.6	1465.0	1556.3	1471.6	1386.9	1208.2	1029.6	923.0
50°	823.8	894.6	1061.3	1228.1	1307.5	1386.9	1312.1	1237.3	1090.4	943.6	850.9
52.5°	753.7	811.2	950.8	1090.4	1158.6	1226.8	1162.6	1098.4	981.9	865.5	784.8
55°	684.2	733.1	854.2	975.3	1021.6	1067.9	1018.3	968.7	874.7	780.8	712.6
57.5°	619.3	663.0	762.3	861.5	897.2	933.0	888.0	843.0	772.2	701.4	644.5
60°	555.8	591.5	674.3	757.0	778.8	800.6	764.2	727.8	678.2	628.6	577.6
62.5°	496.9	529.3	590.9	652.4	667.0	681.5	653.7	625.9	588.2	550.5	510.8
65°	436.0	460.5	510.8	561.1	570.4	579.6	555.1	530.7	502.2	473.8	444.6
67.5°	379.8	397.0	438.0	479.1	479.7	480.4	460.5	440.7	424.8	408.9	385.8
70°	324.9	341.4	368.6	395.7	396.3	397.0	381.1	365.2	353.3	341.4	324.2
72.5°	268.6	280.6	301.1	321.6	320.3	318.9	309.0	299.1	289.8	280.6	268.0
75°	217.7	227.6	241.5	255.4	251.4	247.5	242.2	236.9	228.9	221.0	213.1
77.5°	171.4	177.3	185.3	193.2	190.6	187.9	183.3	178.7	172.7	166.7	163.4
80°	125.7	128.4	133.7	139.0	137.6	136.3	131.0	125.7	124.4	123.1	118.4
82.5°	85.4	88.7	90.0	91.3	90.6	90.0	86.0	82.0	80.7	79.4	78.7
85°	50.9	51.6	52.3	52.9	50.9	49.0	47.6	46.3	46.3	46.3	45.7
87.5°	23.2	23.8	23.8	23.8	23.2	22.5	21.2	19.9	20.5	21.2	21.2
90°	18.2	15.3	12.4	9.9	7.7	5.4	3.2	1.0	3.2	5.4	7.7
92.5°	22.0	20.0	18.0	17.7	19.0	20.3	21.7	23.0	21.7	20.3	19.0
95°	26.1	23.7	21.2	24.6	33.7	42.8	51.9	61.0	51.9	42.8	33.7
97.5°	54.7	66.0	77.4	86.1	92.4	98.6	104.8	111.0	104.8	98.6	92.4
100°	102.4	137.0	171.7	186.8	182.4	177.9	173.5	169.1	173.5	177.9	182.4
102.5°	151.4	190.1	228.7	246.6	243.7	240.9	238.0	235.1	238.0	240.9	243.7
105°	259.1	279.1	299.1	307.9	305.4	303.0	300.5	298.1	300.5	303.0	305.4
107.5°	382.5	379.1	375.8	373.1	371.1	369.1	367.1	365.1	367.1	369.1	371.1
110°	446.3	443.8	441.4	439.2	437.5	435.7	433.9	432.1	433.9	435.7	437.5



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	509.3	506.8	504.4	502.4	500.8	499.3	497.7	496.2	497.7	499.3	500.8
115°	570.2	568.2	566.2	564.5	563.2	561.8	560.5	559.2	560.5	561.8	563.2
117.5°	631.0	629.9	628.8	627.4	625.9	624.3	622.8	621.2	622.8	624.3	625.9
120°	688.9	688.2	687.6	686.2	684.2	682.2	680.2	678.2	680.2	682.2	684.2
122.5°	745.5	744.6	743.7	742.5	740.9	739.3	737.8	736.2	737.8	739.3	740.9
125°	798.5	797.6	796.7	795.4	793.6	791.8	790.0	788.2	790.0	791.8	793.6
127.5°	851.0	849.9	848.8	847.4	845.6	843.8	842.0	840.3	842.0	843.8	845.6
130°	898.5	897.6	896.7	895.4	893.6	891.8	890.1	888.3	890.1	891.8	893.6
132.5°	944.0	943.3	942.6	941.4	939.6	937.9	936.1	934.3	936.1	937.9	939.6
135°	989.5	988.6	987.8	986.6	985.3	984.0	982.6	981.3	982.6	984.0	985.3
137.5°	1030.4	1030.0	1029.5	1028.4	1026.7	1024.9	1023.1	1021.3	1023.1	1024.9	1026.7
140°	1069.0	1068.3	1067.7	1066.7	1065.3	1064.0	1062.7	1061.3	1062.7	1064.0	1065.3
142.5°	1106.0	1105.3	1104.7	1103.7	1102.3	1101.0	1099.7	1098.3	1099.7	1101.0	1102.3
145°	1140.5	1140.0	1139.6	1138.6	1137.0	1135.5	1133.9	1132.4	1133.9	1135.5	1137.0
147.5°	1171.5	1171.0	1170.6	1169.8	1168.7	1167.6	1166.5	1165.4	1166.5	1167.6	1168.7
150°	1199.5	1199.0	1198.6	1198.0	1197.4	1196.7	1196.0	1195.4	1196.0	1196.7	1197.4
152.5°	1223.9	1223.7	1223.5	1223.3	1223.1	1222.8	1222.6	1222.4	1222.6	1222.8	1223.1
155°	1245.9	1245.7	1245.5	1245.6	1246.1	1246.5	1246.9	1247.4	1246.9	1246.5	1246.1
157.5°	1266.8	1267.1	1267.3	1267.4	1267.4	1267.4	1267.4	1267.4	1267.4	1267.4	1267.4
160°	1283.8	1284.1	1284.3	1284.5	1284.7	1285.0	1285.2	1285.4	1285.2	1285.0	1284.7
162.5°	1298.9	1299.1	1299.3	1299.7	1300.4	1301.1	1301.7	1302.4	1301.7	1301.1	1300.4
165°	1311.9	1312.1	1312.3	1312.7	1313.4	1314.1	1314.7	1315.4	1314.7	1314.1	1313.4
167.5°	1322.4	1322.4	1322.4	1322.9	1323.8	1324.6	1325.5	1326.4	1325.5	1324.6	1323.8
170°	1331.4	1331.4	1331.4	1331.9	1332.8	1333.6	1334.5	1335.4	1334.5	1333.6	1332.8
172.5°	1337.0	1336.8	1336.5	1337.0	1338.1	1339.2	1340.3	1341.4	1340.3	1339.2	1338.1
175°	1342.0	1341.8	1341.5	1342.0	1343.1	1344.2	1345.3	1346.4	1345.3	1344.2	1343.1
177.5°	1344.0	1343.8	1343.5	1344.0	1345.1	1346.2	1347.3	1348.4	1347.3	1346.2	1345.1
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8	2851.8
2.5°	2736.7	2710.9	2685.1	2665.2	2645.4	2611.6	2577.9	2570.0	2562.0	2550.8	2539.5
5°	2595.1	2531.6	2468.1	2411.2	2354.3	2309.9	2265.6	2236.5	2207.4	2186.2	2165.0
7.5°	2429.7	2334.4	2239.1	2171.6	2104.1	2040.0	1975.8	1955.3	1934.7	1907.0	1879.2
10°	2269.6	2164.3	2059.1	1971.1	1883.1	1820.3	1757.4	1732.3	1707.1	1672.1	1637.0
12.5°	2126.6	2011.5	1896.4	1807.7	1719.0	1658.2	1597.3	1560.9	1524.5	1504.7	1484.8
15°	1977.1	1854.0	1731.0	1648.9	1566.9	1511.9	1457.0	1425.3	1393.5	1374.3	1355.1
17.5°	1844.8	1723.0	1601.3	1522.5	1443.8	1393.5	1343.2	1315.4	1287.6	1273.1	1258.5
20°	1719.0	1599.9	1480.8	1404.1	1327.3	1286.3	1245.3	1227.4	1209.5	1197.6	1185.7
22.5°	1603.9	1486.8	1369.7	1304.2	1238.7	1205.6	1172.5	1159.9	1147.4	1137.4	1127.5
25°	1488.8	1384.2	1279.7	1224.1	1168.5	1141.4	1114.3	1101.7	1089.1	1079.2	1069.3
27.5°	1394.8	1294.9	1195.0	1147.4	1099.7	1078.5	1057.4	1047.4	1037.5	1028.2	1019.0
30°	1303.5	1214.2	1124.9	1083.8	1042.8	1023.6	1004.4	994.5	984.6	976.0	967.4
32.5°	1218.8	1142.1	1065.3	1027.6	989.9	974.0	958.1	946.2	934.3	927.7	921.1
35°	1138.1	1069.3	1000.5	969.4	938.3	922.4	906.5	896.6	886.6	881.4	876.1
37.5°	1069.3	1007.7	946.2	916.4	886.6	871.4	856.2	847.6	839.0	837.0	835.0
40°	999.1	946.2	893.3	864.2	835.0	821.8	808.6	803.3	798.0	796.7	795.3
42.5°	940.9	889.3	837.7	811.2	784.8	773.5	762.3	759.6	757.0	758.9	760.9
45°	873.4	830.4	787.4	762.9	738.4	729.2	719.9	717.9	715.9	719.9	723.9
47.5°	816.5	776.8	737.1	714.0	690.8	684.2	677.6	676.9	676.2	681.5	686.8
50°	758.3	719.9	681.5	663.0	644.5	638.5	632.6	634.5	636.5	645.1	653.7
52.5°	704.0	668.3	632.6	615.4	598.2	594.2	590.2	594.8	599.5	608.7	618.0
55°	644.5	612.1	579.6	566.4	553.2	549.2	545.2	554.5	563.7	572.4	581.0
57.5°	587.6	559.1	530.7	518.8	506.8	506.2	505.5	514.1	522.7	532.0	541.3
60°	526.7	502.9	479.1	469.8	460.5	461.9	463.2	473.1	483.0	490.3	497.6
62.5°	471.1	451.3	431.4	422.8	414.2	417.5	420.8	430.8	440.7	449.3	457.9
65°	415.5	399.0	382.5	376.5	370.5	375.2	379.8	388.4	397.0	403.0	408.9
67.5°	362.6	348.7	334.8	330.2	325.5	330.2	334.8	343.4	352.0	358.0	363.9
70°	307.0	295.8	284.5	281.2	277.9	283.2	288.5	295.8	303.0	309.0	315.0
72.5°	255.4	246.8	238.2	237.5	236.9	241.5	246.1	253.4	260.7	264.7	268.6
75°	205.1	200.5	195.9	195.2	194.5	199.2	203.8	207.8	211.7	215.0	218.4
77.5°	160.1	156.2	152.2	152.8	153.5	156.8	160.1	164.1	168.1	170.1	172.0
80°	113.8	112.5	111.2	112.5	113.8	116.5	119.1	121.7	124.4	125.7	127.0
82.5°	78.1	76.8	75.4	77.4	79.4	81.4	83.4	85.4	87.3	88.0	88.7
85°	45.0	47.0	49.0	49.0	49.0	49.6	50.3	50.9	51.6	50.9	50.3
87.5°	21.2	21.8	22.5	22.5	22.5	23.2	23.8	23.8	23.8	23.2	22.5
90°	9.9	12.4	15.3	18.2	21.1	24.0	24.9	25.8	26.7	27.6	28.2
92.5°	17.7	18.0	20.0	22.0	24.0	26.0	27.6	29.1	30.7	32.2	33.1
95°	24.6	21.2	23.7	26.1	28.6	31.0	32.6	34.1	35.7	37.2	38.0
97.5°	86.1	77.4	66.0	54.7	43.3	32.0	33.8	35.6	37.3	39.1	40.1
100°	186.8	171.7	137.0	102.4	67.7	33.0	34.8	36.6	38.3	40.1	41.1
102.5°	246.6	228.7	190.1	151.4	112.7	74.0	66.7	59.4	52.0	44.7	41.2
105°	307.9	299.1	279.1	259.1	239.1	219.1	179.7	140.4	101.0	61.7	42.2
107.5°	373.1	375.8	379.1	382.5	385.8	389.1	354.9	320.7	286.4	252.2	220.5
110°	439.2	441.4	443.8	446.3	448.7	451.1	443.8	436.5	429.1	421.8	402.2



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	502.4	504.4	506.8	509.3	511.7	514.2	516.2	518.2	520.2	522.2	522.9
115°	564.5	566.2	568.2	570.2	572.2	574.2	576.4	578.6	580.9	583.1	584.6
117.5°	627.4	628.8	629.9	631.0	632.1	633.2	635.0	636.8	638.5	640.3	641.3
120°	686.2	687.6	688.2	688.9	689.6	690.2	692.0	693.8	695.6	697.3	698.2
122.5°	742.5	743.7	744.6	745.5	746.3	747.2	748.3	749.5	750.6	751.7	752.3
125°	795.4	796.7	797.6	798.5	799.4	800.3	800.7	801.1	801.6	802.0	802.5
127.5°	847.4	848.8	849.9	851.0	852.2	853.3	853.9	854.6	855.3	855.9	856.0
130°	895.4	896.7	897.6	898.5	899.4	900.3	901.2	902.1	903.0	903.8	904.1
132.5°	941.4	942.6	943.3	944.0	944.6	945.3	946.2	947.1	948.0	948.9	949.0
135°	986.6	987.8	988.6	989.5	990.4	991.3	992.0	992.6	993.3	994.0	994.0
137.5°	1028.4	1029.5	1030.0	1030.4	1030.9	1031.3	1032.4	1033.5	1034.7	1035.8	1036.1
140°	1066.7	1067.7	1068.3	1069.0	1069.7	1070.3	1071.2	1072.1	1073.0	1073.9	1074.1
142.5°	1103.7	1104.7	1105.3	1106.0	1106.7	1107.3	1108.0	1108.7	1109.4	1110.0	1110.0
145°	1138.6	1139.6	1140.0	1140.5	1140.9	1141.4	1141.8	1142.2	1142.7	1143.1	1143.4
147.5°	1169.8	1170.6	1171.0	1171.5	1171.9	1172.4	1172.8	1173.3	1173.7	1174.1	1173.8
150°	1198.0	1198.6	1199.0	1199.5	1199.9	1200.4	1200.8	1201.3	1201.7	1202.2	1202.0
152.5°	1223.3	1223.5	1223.7	1223.9	1224.2	1224.4	1225.3	1226.2	1227.1	1227.9	1227.8
155°	1245.6	1245.5	1245.7	1245.9	1246.2	1246.4	1247.5	1248.6	1249.7	1250.8	1250.7
157.5°	1267.4	1267.3	1267.1	1266.8	1266.6	1266.4	1267.7	1269.1	1270.4	1271.7	1271.5
160°	1284.5	1284.3	1284.1	1283.8	1283.6	1283.4	1284.7	1286.1	1287.4	1288.7	1288.6
162.5°	1299.7	1299.3	1299.1	1298.9	1298.6	1298.4	1300.0	1301.5	1303.1	1304.6	1304.7
165°	1312.7	1312.3	1312.1	1311.9	1311.6	1311.4	1313.2	1315.0	1316.7	1318.5	1318.6
167.5°	1322.9	1322.4	1322.4	1322.4	1322.4	1322.4	1324.2	1326.0	1327.8	1329.5	1329.5
170°	1331.9	1331.4	1331.4	1331.4	1331.4	1331.4	1333.2	1335.0	1336.8	1338.5	1338.5
172.5°	1337.0	1336.5	1336.8	1337.0	1337.2	1337.4	1339.2	1341.0	1342.8	1344.5	1344.4
175°	1342.0	1341.5	1341.8	1342.0	1342.2	1342.4	1344.0	1345.5	1347.1	1348.6	1348.5
177.5°	1344.0	1343.5	1343.8	1344.0	1344.2	1344.4	1346.2	1348.0	1349.8	1351.5	1351.3
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2851.8	2851.8	2851.8	2851.8
2.5°	2534.9	2530.3	2511.7	2493.2
5°	2149.1	2133.3	2128.0	2122.7
7.5°	1877.8	1876.5	1848.7	1820.9
10°	1639.0	1641.0	1615.8	1590.7
12.5°	1468.3	1451.7	1449.7	1447.8
15°	1339.9	1324.7	1322.0	1319.4
17.5°	1249.2	1240.0	1237.3	1234.7
20°	1180.4	1175.1	1170.5	1165.9
22.5°	1120.9	1114.3	1110.3	1106.3
25°	1063.3	1057.4	1056.0	1054.7
27.5°	1011.7	1004.4	1004.4	1004.4
30°	962.7	958.1	956.1	954.1
32.5°	917.1	913.1	913.1	913.1
35°	874.1	872.1	869.4	866.8
37.5°	835.0	835.0	833.7	832.4
40°	797.3	799.3	799.3	799.3
42.5°	762.9	764.9	764.9	764.9
45°	727.2	730.5	731.8	733.1
47.5°	692.1	697.4	698.7	700.1
50°	657.7	661.7	662.3	663.0
52.5°	622.6	627.3	630.6	633.9
55°	585.6	590.2	592.2	594.2
57.5°	545.9	550.5	551.2	551.8
60°	502.2	506.8	508.2	509.5
62.5°	460.5	463.2	464.5	465.8
65°	412.9	416.9	419.5	422.2
67.5°	367.2	370.5	370.5	370.5
70°	316.3	317.6	319.6	321.6
72.5°	269.3	270.0	270.0	270.0
75°	219.7	221.0	221.7	222.3
77.5°	172.7	173.4	173.4	173.4
80°	126.4	125.7	125.7	125.7
82.5°	86.7	84.7	84.7	84.7
85°	49.6	49.0	49.6	50.3
87.5°	22.5	22.5	22.5	22.5
90°	28.7	29.1	29.6	30.0
92.5°	33.3	33.6	33.8	34.0
95°	38.0	38.0	38.0	38.0
97.5°	40.3	40.6	40.8	41.0
100°	41.3	41.6	41.8	42.0
102.5°	41.7	42.1	42.6	43.0
105°	42.7	43.1	43.6	44.0
107.5°	191.4	162.3	133.2	104.0
110°	370.5	338.7	306.9	275.1



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	522.5	522.1	521.6	521.2
115°	585.5	586.4	587.3	588.2
117.5°	641.5	641.8	642.0	642.2
120°	698.2	698.2	698.2	698.2
122.5°	752.6	752.8	753.0	753.2
125°	802.9	803.4	803.8	804.3
127.5°	855.6	855.2	854.7	854.3
130°	903.6	903.2	902.7	902.3
132.5°	948.3	947.6	947.0	946.3
135°	993.3	992.6	992.0	991.3
137.5°	1035.7	1035.2	1034.8	1034.3
140°	1073.7	1073.2	1072.8	1072.3
142.5°	1109.4	1108.7	1108.0	1107.3
145°	1143.4	1143.4	1143.4	1143.4
147.5°	1172.7	1171.6	1170.5	1169.4
150°	1201.4	1200.7	1200.0	1199.4
152.5°	1226.7	1225.6	1224.5	1223.4
155°	1249.4	1248.1	1246.7	1245.4
157.5°	1269.7	1268.0	1266.2	1264.4
160°	1287.1	1285.5	1284.0	1282.4
162.5°	1303.4	1302.1	1300.7	1299.4
165°	1317.1	1315.5	1314.0	1312.4
167.5°	1327.8	1326.0	1324.2	1322.4
170°	1336.8	1335.0	1333.2	1331.4
172.5°	1342.4	1340.4	1338.4	1336.4
175°	1346.8	1345.0	1343.2	1341.4
177.5°	1349.1	1346.9	1344.6	1342.4
180°	1346.4	1346.4	1346.4	1346.4



TEST NUMBER: P831225

CATALOG NUMBER: S123DIP-S1165D1195U935-4F0-1E-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	15.72	16.57	16.66	17.52	18.76	17.96	18.81	18.90	19.76	20.99
	3H	17.37	18.13	18.32	19.09	20.35	19.38	20.14	20.33	21.10	22.36
	4H	17.94	18.66	18.91	19.63	20.89	19.83	20.55	20.80	21.51	22.78
	6H	18.31	18.97	19.29	19.95	21.22	20.11	20.77	21.08	21.74	23.02
	8H	18.41	19.04	19.39	20.03	21.30	20.17	20.80	21.15	21.78	23.06
	12H	18.45	19.05	19.44	20.03	21.33	20.19	20.78	21.17	21.77	23.07
4H	2H	16.29	17.01	17.27	17.98	19.24	18.12	18.84	19.09	19.80	21.07
	3H	18.12	18.72	19.10	19.72	21.00	19.74	20.33	20.72	21.33	22.61
	4H	18.82	19.37	19.81	20.35	21.66	20.32	20.87	21.31	21.86	23.16
	6H	19.29	19.76	20.30	20.78	22.08	20.72	21.19	21.73	22.21	23.51
	8H	19.43	19.87	20.43	20.87	22.19	20.84	21.27	21.84	22.28	23.60
	12H	19.50	19.89	20.52	20.91	22.23	20.88	21.27	21.90	22.30	23.62
8H	4H	19.08	19.52	20.09	20.53	21.84	20.43	20.86	21.43	21.87	23.19
	6H	19.67	20.03	20.70	21.08	22.40	20.93	21.29	21.95	22.34	23.65
	8H	19.88	20.20	20.92	21.23	22.57	21.11	21.42	22.14	22.46	23.79
	12H	20.00	20.28	21.04	21.31	22.69	21.21	21.49	22.25	22.52	23.89
12H	4H	19.09	19.48	20.11	20.50	21.82	20.40	20.79	21.42	21.82	23.14
	6H	19.72	20.04	20.76	21.08	22.41	20.94	21.26	21.98	22.29	23.63
	8H	19.96	20.24	21.00	21.26	22.64	21.14	21.42	22.18	22.45	23.83