

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: P831774

Luminaire Tested: S123RDIP-S1000D1025U850-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831774
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2, G3-1807-864-5)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D1025U850-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

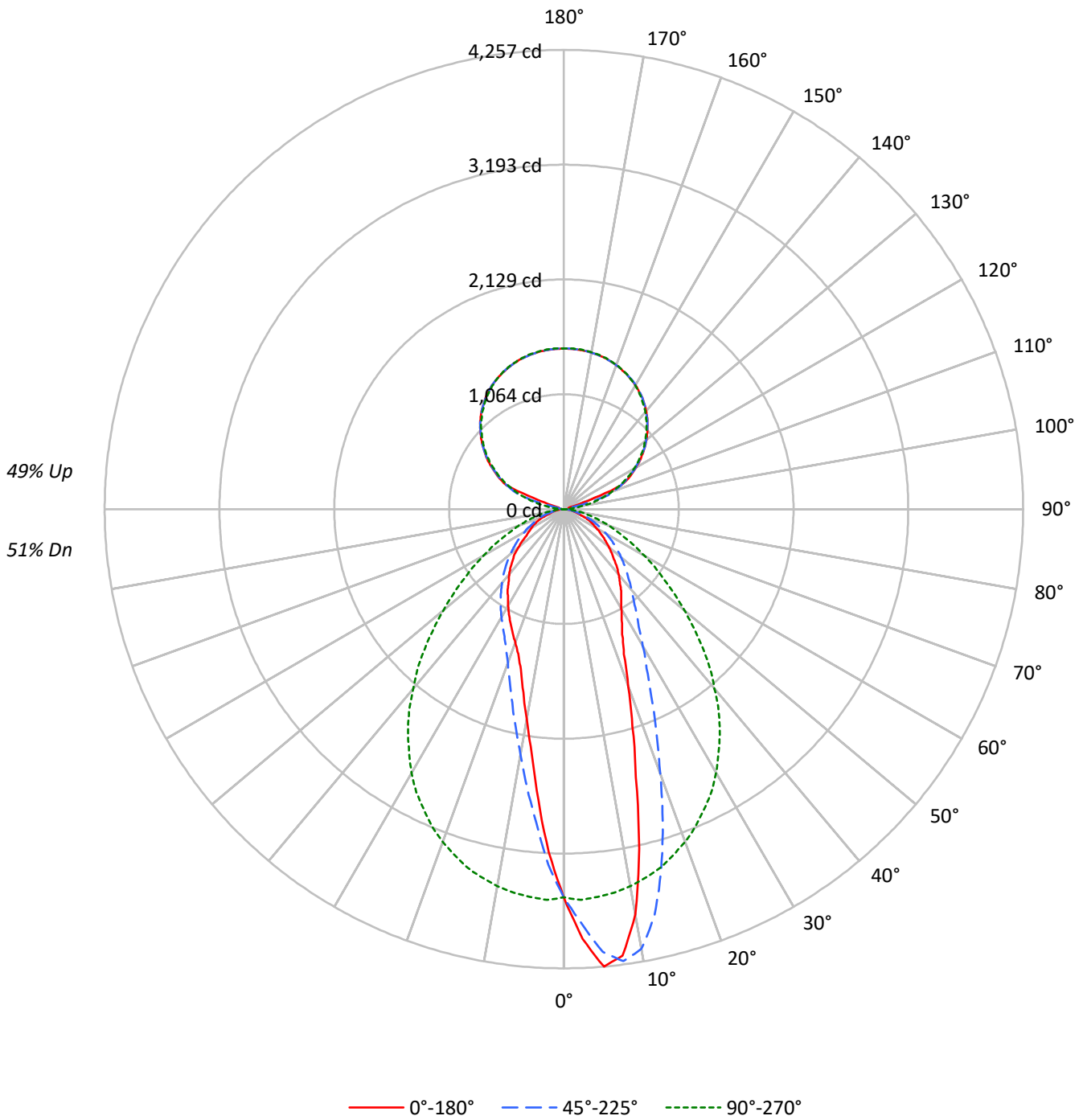
Lumens per Lamp: N/A
Luminaire Lumens: 9316.4 lumens
Efficiency: N/A
Efficacy: 152.7 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 61
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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51				51
1	99	95	91	88	91	88	85	82	75	73	71	63	61	60	52	51	50				45	
2	91	84	78	73	84	78	73	69	67	63	60	56	54	51	47	45	43				39	
3	83	75	68	62	77	69	63	59	60	55	51	51	47	45	42	40	38				34	
4	77	67	59	54	71	62	56	51	54	49	45	46	42	39	38	36	34				30	
5	71	60	52	47	66	56	49	44	49	43	39	42	38	35	35	32	30				27	
6	66	54	47	41	61	51	44	39	44	39	35	38	34	31	32	29	27				24	
7	61	49	42	37	57	46	40	35	41	35	31	35	31	28	30	27	25				22	
8	57	45	38	33	53	42	36	31	37	32	28	32	28	25	28	25	22				20	
9	53	42	34	30	49	39	33	28	34	29	26	30	26	23	26	23	21				19	
10	50	38	32	27	46	36	30	26	32	27	24	28	24	21	24	21	19				17	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	38736	38736	38736	38736	38736
5°	45995	44529	38980	31511	29255
10°	41673	45228	38786	25247	21659
15°	28691	38780	38376	20635	17133
20°	19961	29857	37606	17400	15060
25°	15210	22755	36485	15465	13879
30°	13241	18192	35082	14359	12855
35°	12156	15347	33097	13427	11924
40°	11092	13704	30498	12513	11071
45°	10018	12533	27694	11645	10219
50°	9093	11563	24387	10798	9167
55°	8223	10620	21210	9969	7863
60°	7369	9655	18424	9052	7434
65°	6803	8568	15860	8135	7027
70°	5526	7405	13838	7361	5712
75°	4849	5889	11720	6105	5032
80°	4389	4984	9602	5120	4754
85°	4014	4372	7287	4644	4372

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 29221 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.0	3.5
10°-20°	759.0	8.1
20°-30°	870.9	9.3
30°-40°	858.4	9.2
40°-50°	757.0	8.1
50°-60°	582.4	6.3
60°-70°	382.9	4.1
70°-80°	185.9	2.0
80°-90°	49.9	0.5
90°-100°	52.5	0.6
100°-110°	253.9	2.7
110°-120°	622.5	6.7
120°-130°	790.2	8.5
130°-140°	844.2	9.1
140°-150°	789.4	8.5
150°-160°	636.7	6.8
160°-170°	410.9	4.4
170°-180°	141.6	1.5
0°-30°	1957.9	21.0
0°-40°	2816.3	30.2
0°-60°	4155.7	44.6
0°-90°	4774.3	51.2
90°-120°	928.9	10.0
90°-150°	3352.8	36.0
90°-180°	4542.0	48.8
0°-180°	9316.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3599	3599	3599	3599	3599	
5°	4257	4121	3608	2916	2708	389
15°	2575	3480	3444	1852	1538	727
25°	1281	1916	3072	1302	1169	605
35°	925	1168	2519	1022	907	577
45°	658	823	1819	765	671	511
55°	438	566	1130	531	419	393
65°	267	336	623	319	276	262
75°	117	142	282	147	121	125
85°	32	35	59	38	35	35
90°	33	27	1	27	33	16
95°	42	34	68	34	42	35
105°	49	242	330	242	49	101
115°	651	635	619	635	651	612
125°	890	886	872	886	890	795
135°	1097	1097	1086	1097	1097	846
145°	1265	1263	1253	1263	1265	790
155°	1378	1379	1380	1379	1378	636
165°	1452	1451	1456	1451	1452	410
175°	1484	1486	1490	1486	1484	141
180°	1490	1490	1490	1490	1490	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7
2.5°	3988.3	3975.7	3963.2	3959.5	3955.8	3944.0	3932.2	3905.6	3879.1	3851.8	3824.5
5°	4256.8	4258.3	4259.7	4256.1	4252.4	4236.9	4221.4	4188.9	4156.5	4121.1	4085.6
7.5°	4174.2	4197.8	4221.4	4225.8	4230.2	4242.0	4253.8	4246.5	4239.1	4225.8	4212.5
10°	3812.7	3811.2	3809.7	3836.3	3862.8	3941.8	4020.7	4061.3	4101.9	4138.0	4174.2
12.5°	3222.5	3224.7	3226.9	3314.0	3401.0	3475.5	3550.0	3653.3	3756.6	3868.0	3979.4
15°	2574.7	2610.9	2647.0	2724.5	2802.0	2914.1	3026.2	3164.9	3303.6	3480.0	3656.3
17.5°	2114.4	2129.9	2145.4	2219.9	2294.4	2400.6	2506.9	2664.0	2821.1	3048.4	3275.6
20°	1742.6	1756.6	1770.6	1824.4	1878.3	1980.1	2081.9	2231.7	2381.4	2606.5	2831.5
22.5°	1454.8	1482.1	1509.4	1545.6	1581.7	1655.5	1729.3	1882.0	2034.7	2239.8	2444.9
25°	1280.7	1293.3	1305.8	1336.8	1367.8	1438.6	1509.4	1610.5	1711.6	1915.9	2120.3
27.5°	1162.7	1166.4	1170.1	1192.9	1215.8	1261.5	1307.3	1401.0	1494.7	1662.9	1831.1
30°	1065.3	1071.9	1078.6	1096.3	1114.0	1147.2	1180.4	1246.8	1313.2	1463.7	1614.2
32.5°	990.1	993.7	997.4	1012.2	1026.9	1051.3	1075.6	1128.0	1180.4	1295.5	1410.6
35°	925.1	925.9	926.6	937.7	948.7	972.4	996.0	1039.5	1083.0	1167.9	1252.7
37.5°	851.4	856.5	861.7	869.8	877.9	898.6	919.2	954.6	990.1	1060.1	1130.2
40°	789.4	793.8	798.2	807.8	817.4	833.7	849.9	882.3	914.8	975.3	1035.8
42.5°	727.4	730.4	733.3	742.9	752.5	772.4	792.3	818.2	844.0	894.1	944.3
45°	658.1	665.4	672.8	683.2	693.5	710.4	727.4	754.0	780.5	823.3	866.1
47.5°	600.5	604.2	607.9	616.8	625.6	646.3	666.9	690.5	714.1	754.0	793.8
50°	543.0	544.5	545.9	554.0	562.2	580.6	599.1	626.3	653.6	690.5	727.4
52.5°	488.4	492.1	495.8	503.9	512.0	524.5	537.1	565.1	593.1	629.3	665.4
55°	438.2	440.4	442.6	448.5	454.5	469.2	484.0	508.3	532.7	565.9	599.1
57.5°	391.0	394.0	396.9	401.3	405.8	419.0	432.3	453.7	475.1	508.3	541.5
60°	342.3	346.0	349.7	354.9	360.0	370.3	380.7	399.9	419.0	448.5	478.1
62.5°	306.9	307.6	308.4	312.8	317.2	324.6	332.0	347.5	363.0	392.5	422.0
65°	267.1	269.3	271.5	273.7	275.9	281.8	287.7	301.0	314.3	336.4	358.5
67.5°	225.8	228.0	230.2	233.9	237.6	242.7	247.9	256.7	265.6	286.2	306.9
70°	175.6	175.6	175.6	181.5	187.4	196.2	205.1	211.7	218.4	235.3	252.3
72.5°	143.1	143.9	144.6	145.3	146.1	151.2	156.4	167.5	178.5	188.9	199.2
75°	116.6	117.3	118.0	118.8	119.5	121.0	122.5	126.2	129.8	141.6	153.5
77.5°	93.0	93.7	94.4	95.2	95.9	97.4	98.9	100.3	101.8	106.2	110.7
80°	70.8	71.6	72.3	73.0	73.8	74.5	75.3	76.7	78.2	80.4	82.6
82.5°	51.6	51.6	51.6	51.6	51.6	53.1	54.6	54.6	54.6	56.1	57.5
85°	32.5	32.5	32.5	33.2	33.9	33.9	33.9	34.7	35.4	35.4	35.4
87.5°	14.8	14.0	13.3	14.0	14.8	14.8	14.8	15.5	16.2	16.2	16.2
90°	33.2	32.7	32.2	31.7	31.2	30.5	29.5	28.5	27.6	26.6	23.4
92.5°	37.6	37.4	37.1	36.9	36.7	35.7	33.9	32.2	30.5	28.8	26.6
95°	42.1	42.1	42.1	42.1	42.1	41.2	39.5	37.8	36.0	34.3	31.6
97.5°	45.4	45.1	44.9	44.6	44.4	43.3	41.3	39.4	37.4	35.4	48.0
100°	46.5	46.2	46.0	45.8	45.5	44.4	42.4	40.5	38.5	36.5	74.9
102.5°	47.6	47.1	46.6	46.1	45.6	49.4	57.6	65.7	73.8	81.9	124.7
105°	48.7	48.2	47.7	47.2	46.7	68.3	111.8	155.3	198.9	242.4	264.6
107.5°	115.1	147.3	179.6	211.8	244.0	279.1	317.0	354.8	392.7	430.6	426.9
110°	304.4	339.6	374.8	409.9	445.1	466.8	474.9	483.0	491.1	499.2	496.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	576.7	577.2	577.7	578.2	578.7	577.8	575.6	573.4	571.2	569.0	566.3
115°	650.9	649.9	648.9	647.9	646.9	645.2	642.8	640.3	637.8	635.4	633.2
117.5°	710.7	710.4	710.2	709.9	709.7	708.6	706.6	704.6	702.7	700.7	699.5
120°	772.6	772.6	772.6	772.6	772.6	771.7	769.7	767.7	765.8	763.8	763.1
122.5°	833.5	833.3	833.0	832.8	832.5	831.8	830.6	829.3	828.1	826.9	825.9
125°	890.0	889.5	889.0	888.5	888.0	887.5	887.0	886.5	886.0	885.6	884.6
127.5°	945.3	945.8	946.3	946.8	947.3	947.2	946.4	945.7	945.0	944.2	943.0
130°	998.5	999.0	999.4	999.9	1000.4	1000.2	999.2	998.2	997.2	996.3	995.3
132.5°	1047.2	1047.9	1048.6	1049.4	1050.1	1050.0	1049.0	1048.0	1047.0	1046.1	1045.3
135°	1097.0	1097.7	1098.5	1099.2	1099.9	1099.9	1099.2	1098.5	1097.7	1097.0	1096.0
137.5°	1144.6	1145.1	1145.6	1146.1	1146.5	1146.2	1144.9	1143.7	1142.5	1141.3	1140.8
140°	1186.6	1187.1	1187.6	1188.1	1188.6	1188.4	1187.4	1186.4	1185.4	1184.4	1183.7
142.5°	1225.4	1226.1	1226.9	1227.6	1228.3	1228.3	1227.6	1226.9	1226.1	1225.4	1224.6
145°	1265.2	1265.2	1265.2	1265.2	1265.2	1265.0	1264.5	1264.0	1263.5	1263.0	1262.5
147.5°	1294.0	1295.2	1296.5	1297.7	1298.9	1299.3	1298.8	1298.3	1297.8	1297.3	1296.8
150°	1327.2	1328.0	1328.7	1329.4	1330.2	1330.3	1329.8	1329.3	1328.8	1328.3	1327.8
152.5°	1353.8	1355.0	1356.3	1357.5	1358.7	1358.8	1357.9	1356.9	1355.9	1354.9	1354.7
155°	1378.1	1379.6	1381.1	1382.6	1384.0	1384.2	1382.9	1381.7	1380.5	1379.3	1379.0
157.5°	1399.2	1401.1	1403.1	1405.1	1407.0	1407.3	1405.8	1404.3	1402.9	1401.4	1401.6
160°	1419.1	1420.8	1422.5	1424.3	1426.0	1426.1	1424.6	1423.2	1421.7	1420.2	1420.5
162.5°	1437.9	1439.4	1440.9	1442.3	1443.8	1443.7	1442.0	1440.3	1438.5	1436.8	1437.1
165°	1452.3	1454.0	1455.8	1457.5	1459.2	1459.1	1457.1	1455.1	1453.2	1451.2	1451.5
167.5°	1463.4	1465.3	1467.3	1469.3	1471.3	1471.3	1469.3	1467.3	1465.3	1463.4	1463.4
170°	1473.3	1475.3	1477.3	1479.2	1481.2	1481.2	1479.2	1477.3	1475.3	1473.3	1473.3
172.5°	1478.9	1481.1	1483.3	1485.5	1487.7	1487.9	1485.9	1483.9	1482.0	1480.0	1479.7
175°	1484.4	1486.4	1488.3	1490.3	1492.3	1492.4	1490.7	1489.0	1487.2	1485.5	1485.3
177.5°	1485.5	1488.0	1490.4	1492.9	1495.4	1495.6	1493.6	1491.7	1489.7	1487.7	1487.5
180°	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7
2.5°	3820.8	3817.1	3781.7	3746.3	3711.6	3676.9	3651.1	3625.3	3581.8	3538.2	3510.9
5°	4057.6	4029.6	3973.5	3917.4	3833.3	3749.2	3678.4	3607.6	3517.6	3427.6	3352.3
7.5°	4189.7	4166.8	4098.9	4031.0	3919.6	3808.2	3697.6	3586.9	3454.1	3321.3	3207.7
10°	4193.4	4212.5	4156.5	4100.4	3975.0	3849.6	3699.1	3548.6	3370.0	3191.5	3044.7
12.5°	4062.0	4144.7	4132.9	4121.1	3993.4	3865.8	3682.8	3499.9	3280.8	3061.6	2877.9
15°	3816.4	3976.5	4023.7	4070.9	3965.4	3859.9	3651.8	3443.8	3186.3	2928.9	2717.9
17.5°	3499.9	3724.1	3848.8	3973.5	3896.8	3820.1	3592.1	3364.1	3074.2	2784.3	2554.8
20°	3125.1	3418.7	3614.2	3809.7	3781.7	3753.7	3518.3	3283.0	2970.2	2657.4	2408.7
22.5°	2754.7	3064.6	3334.6	3604.6	3633.4	3662.2	3424.6	3187.1	2844.8	2502.4	2249.4
25°	2435.3	2750.3	3072.0	3393.6	3458.6	3523.5	3297.7	3072.0	2717.1	2362.3	2110.7
27.5°	2130.6	2430.1	2784.3	3138.4	3256.4	3374.5	3167.9	2961.3	2591.7	2222.1	1971.3
30°	1882.0	2149.8	2511.3	2872.8	3037.3	3201.8	3012.2	2822.6	2456.0	2089.3	1843.6
32.5°	1650.3	1890.1	2253.1	2616.0	2807.1	2998.2	2834.4	2670.6	2318.0	1965.4	1722.6
35°	1467.4	1682.1	2020.7	2359.3	2573.3	2787.2	2652.9	2518.7	2174.1	1829.6	1600.2
37.5°	1310.2	1490.2	1808.2	2126.2	2353.4	2580.6	2468.5	2356.4	2032.5	1708.6	1491.7
40°	1180.4	1325.0	1620.8	1916.7	2139.5	2362.3	2266.4	2170.5	1880.5	1590.6	1387.7
42.5°	1069.0	1193.7	1459.3	1724.9	1929.2	2133.6	2070.1	2006.7	1744.0	1481.4	1293.3
45°	970.9	1075.6	1309.5	1543.4	1731.5	1919.6	1869.4	1819.3	1592.8	1366.3	1193.7
47.5°	883.8	973.8	1182.6	1391.4	1560.3	1729.3	1682.8	1636.3	1448.9	1261.5	1104.4
50°	804.1	880.9	1055.0	1229.1	1381.1	1533.0	1494.7	1456.3	1301.4	1146.5	1010.7
52.5°	728.9	792.3	948.7	1105.1	1227.6	1350.1	1320.6	1291.1	1171.5	1052.0	928.8
55°	657.3	715.6	847.7	979.7	1084.5	1189.2	1159.7	1130.2	1037.3	944.3	835.9
57.5°	592.4	643.3	750.3	857.3	940.6	1024.0	1010.0	996.0	918.5	841.0	751.8
60°	523.8	569.5	661.8	754.0	821.1	888.2	872.0	855.8	800.5	745.1	668.4
62.5°	462.6	503.1	576.9	650.7	705.3	759.9	748.1	736.3	694.2	652.2	588.7
65°	398.4	438.2	498.0	557.7	600.5	643.3	633.0	622.7	590.9	559.2	508.3
67.5°	340.1	373.3	424.9	476.6	505.4	534.1	528.2	522.3	498.0	473.6	433.8
70°	281.1	309.9	352.6	395.4	415.4	435.3	437.5	439.7	417.6	395.4	365.9
72.5°	222.1	244.9	284.8	324.6	340.1	355.6	354.9	354.1	340.8	327.6	301.0
75°	170.4	187.4	218.4	249.4	262.6	275.9	278.9	281.8	269.3	256.7	242.0
77.5°	122.5	134.3	157.9	181.5	196.2	211.0	212.5	213.9	208.0	202.1	188.1
80°	86.3	90.0	104.8	119.5	135.0	150.5	152.7	154.9	149.0	143.1	134.3
82.5°	59.8	62.0	67.1	72.3	84.8	97.4	100.3	103.3	100.3	97.4	87.8
85°	36.1	36.9	39.1	41.3	47.2	53.1	56.1	59.0	57.5	56.1	50.9
87.5°	16.2	16.2	17.0	17.7	19.2	20.7	24.3	28.0	25.8	23.6	21.4
90°	20.2	17.0	13.8	10.9	8.5	6.0	3.6	1.1	3.6	6.0	8.5
92.5°	24.4	22.1	19.9	19.6	21.0	22.5	24.0	25.5	24.0	22.5	21.0
95°	28.9	26.2	23.5	27.2	37.3	47.4	57.4	67.5	57.4	47.4	37.3
97.5°	60.5	73.1	85.6	95.3	102.2	109.1	116.0	122.9	116.0	109.1	102.2
100°	113.3	151.7	190.0	206.8	201.8	196.9	192.0	187.1	192.0	196.9	201.8
102.5°	167.5	210.3	253.1	272.9	269.7	266.5	263.3	260.1	263.3	266.5	269.7
105°	286.7	308.8	331.0	340.7	338.0	335.3	332.6	329.9	332.6	335.3	338.0
107.5°	423.2	419.5	415.8	412.9	410.7	408.5	406.2	404.0	406.2	408.5	410.7
110°	493.8	491.1	488.4	486.1	484.1	482.1	480.2	478.2	480.2	482.1	484.1



TEST NUMBER: P831774

CATALOG NUMBER: S123RDIP-S1000D1025U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	563.6	560.9	558.1	555.9	554.2	552.5	550.8	549.0	550.8	552.5	554.2
115°	631.0	628.7	626.5	624.7	623.2	621.7	620.3	618.8	620.3	621.7	623.2
117.5°	698.2	697.0	695.8	694.3	692.6	690.9	689.1	687.4	689.1	690.9	692.6
120°	762.3	761.6	760.8	759.4	757.2	754.9	752.7	750.5	752.7	754.9	757.2
122.5°	824.9	823.9	823.0	821.6	819.9	818.2	816.4	814.7	816.4	818.2	819.9
125°	883.6	882.6	881.6	880.1	878.2	876.2	874.2	872.3	874.2	876.2	878.2
127.5°	941.8	940.5	939.3	937.7	935.7	933.8	931.8	929.8	931.8	933.8	935.7
130°	994.3	993.3	992.3	990.8	988.9	986.9	984.9	983.0	984.9	986.9	988.9
132.5°	1044.6	1043.8	1043.1	1041.8	1039.8	1037.8	1035.9	1033.9	1035.9	1037.8	1039.8
135°	1095.0	1094.0	1093.0	1091.8	1090.3	1088.9	1087.4	1085.9	1087.4	1088.9	1090.3
137.5°	1140.3	1139.8	1139.3	1138.1	1136.1	1134.1	1132.2	1130.2	1132.2	1134.1	1136.1
140°	1183.0	1182.2	1181.5	1180.4	1178.9	1177.4	1175.9	1174.5	1175.9	1177.4	1178.9
142.5°	1223.9	1223.2	1222.4	1221.3	1219.9	1218.4	1216.9	1215.4	1216.9	1218.4	1219.9
145°	1262.0	1261.5	1261.1	1259.9	1258.2	1256.5	1254.8	1253.1	1254.8	1256.5	1258.2
147.5°	1296.4	1295.9	1295.4	1294.5	1293.3	1292.1	1290.8	1289.6	1290.8	1292.1	1293.3
150°	1327.3	1326.9	1326.4	1325.8	1325.0	1324.3	1323.5	1322.8	1323.5	1324.3	1325.0
152.5°	1354.4	1354.2	1353.9	1353.7	1353.4	1353.2	1352.9	1352.7	1352.9	1353.2	1353.4
155°	1378.8	1378.5	1378.3	1378.4	1378.9	1379.4	1379.9	1380.4	1379.9	1379.4	1378.9
157.5°	1401.9	1402.1	1402.4	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5
160°	1420.7	1420.9	1421.2	1421.4	1421.7	1421.9	1422.2	1422.4	1422.2	1421.9	1421.7
162.5°	1437.3	1437.6	1437.8	1438.3	1439.0	1439.8	1440.5	1441.2	1440.5	1439.8	1439.0
165°	1451.7	1451.9	1452.2	1452.7	1453.4	1454.2	1454.9	1455.6	1454.9	1454.2	1453.4
167.5°	1463.4	1463.4	1463.4	1463.9	1464.9	1465.8	1466.8	1467.8	1466.8	1465.8	1464.9
170°	1473.3	1473.3	1473.3	1473.8	1474.8	1475.8	1476.8	1477.8	1476.8	1475.8	1474.8
172.5°	1479.5	1479.2	1479.0	1479.5	1480.7	1482.0	1483.2	1484.4	1483.2	1482.0	1480.7
175°	1485.0	1484.8	1484.5	1485.0	1486.3	1487.5	1488.7	1489.9	1488.7	1487.5	1486.3
177.5°	1487.2	1487.0	1486.7	1487.2	1488.5	1489.7	1490.9	1492.2	1490.9	1489.7	1488.5
180°	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7	3598.7
2.5°	3483.6	3441.6	3399.5	3369.3	3339.0	3301.4	3263.8	3262.3	3260.8	3232.8	3204.8
5°	3277.1	3204.0	3131.0	3059.4	2987.9	2916.3	2844.8	2828.5	2812.3	2787.9	2763.6
7.5°	3094.1	2977.5	2861.0	2769.5	2678.0	2606.5	2534.9	2486.2	2437.5	2399.9	2362.3
10°	2897.9	2753.3	2608.7	2498.0	2387.3	2309.9	2232.4	2176.4	2120.3	2093.7	2067.2
12.5°	2694.3	2537.1	2380.0	2271.5	2163.1	2070.1	1977.2	1926.3	1875.4	1838.5	1801.6
15°	2506.9	2337.9	2169.0	2053.9	1938.8	1851.7	1764.7	1713.8	1662.9	1626.0	1589.1
17.5°	2325.4	2155.0	1984.5	1868.0	1751.4	1672.5	1593.5	1544.1	1494.7	1471.8	1448.9
20°	2160.1	1988.2	1816.3	1706.4	1596.5	1519.0	1441.6	1415.0	1388.4	1367.0	1345.6
22.5°	1996.3	1831.1	1665.8	1560.3	1454.8	1398.8	1342.7	1321.3	1299.9	1283.7	1267.4
25°	1859.1	1694.6	1530.1	1437.9	1345.6	1302.1	1258.6	1244.6	1230.6	1214.3	1198.1
27.5°	1720.4	1564.0	1407.6	1333.8	1260.1	1224.7	1189.2	1171.5	1153.8	1140.6	1127.3
30°	1598.0	1453.4	1308.8	1247.5	1186.3	1155.3	1124.3	1105.1	1086.0	1073.4	1060.9
32.5°	1479.9	1351.6	1223.2	1170.8	1118.4	1088.2	1057.9	1039.5	1021.0	1006.3	991.5
35°	1370.7	1259.3	1147.9	1100.0	1052.0	1021.8	991.5	973.1	954.6	939.9	925.1
37.5°	1274.8	1173.8	1072.7	1027.7	982.7	956.1	929.6	910.4	891.2	875.7	860.2
40°	1184.8	1095.6	1006.3	962.8	919.2	890.5	861.7	844.7	827.8	813.7	799.7
42.5°	1105.1	1023.3	941.4	898.6	855.8	828.5	801.2	781.3	761.4	753.2	745.1
45°	1021.0	948.7	876.4	835.1	793.8	765.0	736.3	719.3	702.3	695.0	687.6
47.5°	947.3	880.1	813.0	772.4	731.8	706.0	680.2	666.9	653.6	643.3	633.0
50°	875.0	810.0	745.1	706.0	666.9	644.8	622.7	606.4	590.2	582.8	575.4
52.5°	805.6	746.6	687.6	647.7	607.9	586.5	565.1	551.1	537.1	521.6	506.1
55°	727.4	675.8	624.1	588.7	553.3	531.2	509.0	492.8	476.6	460.4	444.1
57.5°	662.5	611.6	560.7	529.0	497.2	475.8	454.5	436.7	419.0	405.8	392.5
60°	591.7	547.4	503.1	472.2	441.2	420.5	399.9	382.9	365.9	359.3	352.6
62.5°	525.3	484.0	442.6	415.4	388.1	368.1	348.2	337.2	326.1	321.7	317.2
65°	457.4	422.0	386.6	361.5	336.4	319.4	302.5	297.3	292.1	288.5	284.8
67.5°	394.0	363.7	333.5	311.3	289.2	277.4	265.6	259.7	253.8	249.4	244.9
70°	336.4	309.9	283.3	264.1	244.9	233.9	222.8	217.6	212.5	204.4	196.2
72.5°	274.4	253.8	233.1	218.4	203.6	194.0	184.4	174.1	163.8	156.4	149.0
75°	227.2	206.6	185.9	171.9	157.9	146.8	135.7	132.1	128.4	126.2	123.9
77.5°	174.1	156.4	138.7	127.6	116.6	111.4	106.2	104.0	101.8	101.1	100.3
80°	125.4	110.7	95.9	90.0	84.1	82.6	81.2	79.7	78.2	77.5	76.7
82.5°	78.2	70.8	63.4	62.0	60.5	59.8	59.0	58.3	57.5	56.8	56.1
85°	45.7	42.8	39.8	39.1	38.4	37.6	36.9	36.9	36.9	36.9	36.9
87.5°	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	18.4	17.7
90°	10.9	13.8	17.0	20.2	23.4	26.6	27.6	28.5	29.5	30.5	31.2
92.5°	19.6	19.9	22.1	24.4	26.6	28.8	30.5	32.2	33.9	35.7	36.7
95°	27.2	23.5	26.2	28.9	31.6	34.3	36.0	37.8	39.5	41.2	42.1
97.5°	95.3	85.6	73.1	60.5	48.0	35.4	37.4	39.4	41.3	43.3	44.4
100°	206.8	190.0	151.7	113.3	74.9	36.5	38.5	40.5	42.4	44.4	45.5
102.5°	272.9	253.1	210.3	167.5	124.7	81.9	73.8	65.7	57.6	49.4	45.6
105°	340.7	331.0	308.8	286.7	264.6	242.4	198.9	155.3	111.8	68.3	46.7
107.5°	412.9	415.8	419.5	423.2	426.9	430.6	392.7	354.8	317.0	279.1	244.0
110°	486.1	488.4	491.1	493.8	496.5	499.2	491.1	483.0	474.9	466.8	445.1



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CATALOG NUMBER: S123RDIP-S1000D1025U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	555.9	558.1	560.9	563.6	566.3	569.0	571.2	573.4	575.6	577.8	578.7
115°	624.7	626.5	628.7	631.0	633.2	635.4	637.8	640.3	642.8	645.2	646.9
117.5°	694.3	695.8	697.0	698.2	699.5	700.7	702.7	704.6	706.6	708.6	709.7
120°	759.4	760.8	761.6	762.3	763.1	763.8	765.8	767.7	769.7	771.7	772.6
122.5°	821.6	823.0	823.9	824.9	825.9	826.9	828.1	829.3	830.6	831.8	832.5
125°	880.1	881.6	882.6	883.6	884.6	885.6	886.0	886.5	887.0	887.5	888.0
127.5°	937.7	939.3	940.5	941.8	943.0	944.2	945.0	945.7	946.4	947.2	947.3
130°	990.8	992.3	993.3	994.3	995.3	996.3	997.2	998.2	999.2	1000.2	1000.4
132.5°	1041.8	1043.1	1043.8	1044.6	1045.3	1046.1	1047.0	1048.0	1049.0	1050.0	1050.1
135°	1091.8	1093.0	1094.0	1095.0	1096.0	1097.0	1097.7	1098.5	1099.2	1099.9	1099.9
137.5°	1138.1	1139.3	1139.8	1140.3	1140.8	1141.3	1142.5	1143.7	1144.9	1146.2	1146.5
140°	1180.4	1181.5	1182.2	1183.0	1183.7	1184.4	1185.4	1186.4	1187.4	1188.4	1188.6
142.5°	1221.3	1222.4	1223.2	1223.9	1224.6	1225.4	1226.1	1226.9	1227.6	1228.3	1228.3
145°	1259.9	1261.1	1261.5	1262.0	1262.5	1263.0	1263.5	1264.0	1264.5	1265.0	1265.2
147.5°	1294.5	1295.4	1295.9	1296.4	1296.8	1297.3	1297.8	1298.3	1298.8	1299.3	1298.9
150°	1325.8	1326.4	1326.9	1327.3	1327.8	1328.3	1328.8	1329.3	1329.8	1330.3	1330.2
152.5°	1353.7	1353.9	1354.2	1354.4	1354.7	1354.9	1355.9	1356.9	1357.9	1358.8	1358.7
155°	1378.4	1378.3	1378.5	1378.8	1379.0	1379.3	1380.5	1381.7	1382.9	1384.2	1384.0
157.5°	1402.5	1402.4	1402.1	1401.9	1401.6	1401.4	1402.9	1404.3	1405.8	1407.3	1407.0
160°	1421.4	1421.2	1420.9	1420.7	1420.5	1420.2	1421.7	1423.2	1424.6	1426.1	1426.0
162.5°	1438.3	1437.8	1437.6	1437.3	1437.1	1436.8	1438.5	1440.3	1442.0	1443.7	1443.8
165°	1452.7	1452.2	1451.9	1451.7	1451.5	1451.2	1453.2	1455.1	1457.1	1459.1	1459.2
167.5°	1463.9	1463.4	1463.4	1463.4	1463.4	1463.4	1465.3	1467.3	1469.3	1471.3	1471.3
170°	1473.8	1473.3	1473.3	1473.3	1473.3	1473.3	1475.3	1477.3	1479.2	1481.2	1481.2
172.5°	1479.5	1479.0	1479.2	1479.5	1479.7	1480.0	1482.0	1483.9	1485.9	1487.9	1487.7
175°	1485.0	1484.5	1484.8	1485.0	1485.3	1485.5	1487.2	1489.0	1490.7	1492.4	1492.3
177.5°	1487.2	1486.7	1487.0	1487.2	1487.5	1487.7	1489.7	1491.7	1493.6	1495.6	1495.4
180°	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9	1489.9



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3598.7	3598.7	3598.7	3598.7
2.5°	3197.4	3190.0	3187.1	3184.1
5°	2740.7	2717.9	2712.7	2707.5
7.5°	2352.7	2343.1	2311.4	2279.6
10°	2037.7	2008.1	1994.9	1981.6
12.5°	1774.3	1747.0	1742.6	1738.1
15°	1569.9	1550.7	1544.1	1537.5
17.5°	1435.7	1422.4	1414.3	1406.1
20°	1336.1	1326.5	1320.6	1314.7
22.5°	1260.1	1252.7	1248.3	1243.8
25°	1187.0	1176.0	1172.3	1168.6
27.5°	1117.7	1108.1	1104.4	1100.7
30°	1052.8	1044.6	1039.5	1034.3
32.5°	981.9	972.4	969.4	966.4
35°	919.2	913.3	910.4	907.4
37.5°	852.8	845.5	841.0	836.6
40°	796.0	792.3	790.1	787.9
42.5°	738.5	731.8	731.1	730.4
45°	680.9	674.3	672.8	671.3
47.5°	627.1	621.2	620.4	619.7
50°	567.3	559.2	553.3	547.4
52.5°	498.7	491.3	486.2	481.0
55°	436.0	427.9	423.5	419.0
57.5°	388.8	385.1	382.9	380.7
60°	350.4	348.2	346.7	345.3
62.5°	315.0	312.8	312.8	312.8
65°	282.6	280.3	278.1	275.9
67.5°	240.5	236.1	235.3	234.6
70°	189.6	183.0	182.2	181.5
72.5°	148.3	147.5	146.1	144.6
75°	122.5	121.0	121.0	121.0
77.5°	98.9	97.4	97.4	97.4
80°	76.0	75.3	76.0	76.7
82.5°	56.1	56.1	55.3	54.6
85°	36.1	35.4	35.4	35.4
87.5°	17.7	17.7	17.7	17.7
90°	31.7	32.2	32.7	33.2
92.5°	36.9	37.1	37.4	37.6
95°	42.1	42.1	42.1	42.1
97.5°	44.6	44.9	45.1	45.4
100°	45.8	46.0	46.2	46.5
102.5°	46.1	46.6	47.1	47.6
105°	47.2	47.7	48.2	48.7
107.5°	211.8	179.6	147.3	115.1
110°	409.9	374.8	339.6	304.4



TEST NUMBER: P831774

CATALOG NUMBER: S123RDIP-S1000D1025U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	578.2	577.7	577.2	576.7
115°	647.9	648.9	649.9	650.9
117.5°	709.9	710.2	710.4	710.7
120°	772.6	772.6	772.6	772.6
122.5°	832.8	833.0	833.3	833.5
125°	888.5	889.0	889.5	890.0
127.5°	946.8	946.3	945.8	945.3
130°	999.9	999.4	999.0	998.5
132.5°	1049.4	1048.6	1047.9	1047.2
135°	1099.2	1098.5	1097.7	1097.0
137.5°	1146.1	1145.6	1145.1	1144.6
140°	1188.1	1187.6	1187.1	1186.6
142.5°	1227.6	1226.9	1226.1	1225.4
145°	1265.2	1265.2	1265.2	1265.2
147.5°	1297.7	1296.5	1295.2	1294.0
150°	1329.4	1328.7	1328.0	1327.2
152.5°	1357.5	1356.3	1355.0	1353.8
155°	1382.6	1381.1	1379.6	1378.1
157.5°	1405.1	1403.1	1401.1	1399.2
160°	1424.3	1422.5	1420.8	1419.1
162.5°	1442.3	1440.9	1439.4	1437.9
165°	1457.5	1455.8	1454.0	1452.3
167.5°	1469.3	1467.3	1465.3	1463.4
170°	1479.2	1477.3	1475.3	1473.3
172.5°	1485.5	1483.3	1481.1	1478.9
175°	1490.3	1488.3	1486.4	1484.4
177.5°	1492.9	1490.4	1488.0	1485.5
180°	1489.9	1489.9	1489.9	1489.9



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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	13.57	14.39	14.53	15.35	16.61	18.23	19.05	19.19	20.01	21.27
	3H	14.79	15.52	15.76	16.49	17.77	19.73	20.46	20.70	21.43	22.72
	4H	15.17	15.86	16.15	16.84	18.13	20.22	20.91	21.20	21.89	23.18
	6H	15.45	16.08	16.44	17.07	18.37	20.53	21.16	21.52	22.15	23.45
	8H	15.54	16.14	16.54	17.14	18.44	20.61	21.21	21.61	22.21	23.51
	12H	15.59	16.16	16.59	17.16	18.48	20.64	21.21	21.64	22.21	23.53
4H	2H	14.29	14.98	15.28	15.96	17.25	18.23	18.92	19.21	19.89	21.18
	3H	15.66	16.23	16.65	17.24	18.54	19.88	20.46	20.88	21.46	22.77
	4H	16.11	16.64	17.12	17.64	18.96	20.49	21.01	21.49	22.01	23.34
	6H	16.48	16.93	17.50	17.95	19.28	20.93	21.37	21.94	22.40	23.72
	8H	16.60	17.02	17.62	18.04	19.38	21.06	21.48	22.07	22.49	23.83
	12H	16.68	17.06	17.71	18.09	19.43	21.12	21.50	22.15	22.53	23.87
8H	4H	16.43	16.84	17.44	17.86	19.20	20.45	20.87	21.47	21.89	23.23
	6H	16.89	17.23	17.93	18.29	19.63	20.95	21.30	21.99	22.35	23.69
	8H	17.08	17.39	18.13	18.43	19.79	21.14	21.44	22.19	22.48	23.84
	12H	17.22	17.49	18.27	18.53	19.93	21.25	21.52	22.30	22.56	23.96
12H	4H	16.44	16.81	17.47	17.85	19.19	20.40	20.78	21.44	21.81	23.16
	6H	16.95	17.25	18.00	18.30	19.65	20.93	21.23	21.97	22.27	23.63
	8H	17.17	17.43	18.22	18.47	19.87	21.12	21.38	22.17	22.42	23.82