

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: P831801

Luminaire Tested: S123RDIP-S1000D1195U850-4F0-1E-UDD-G

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831801
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-S1000D1195U850-4F0-1E-UDD-G
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: -

Summary

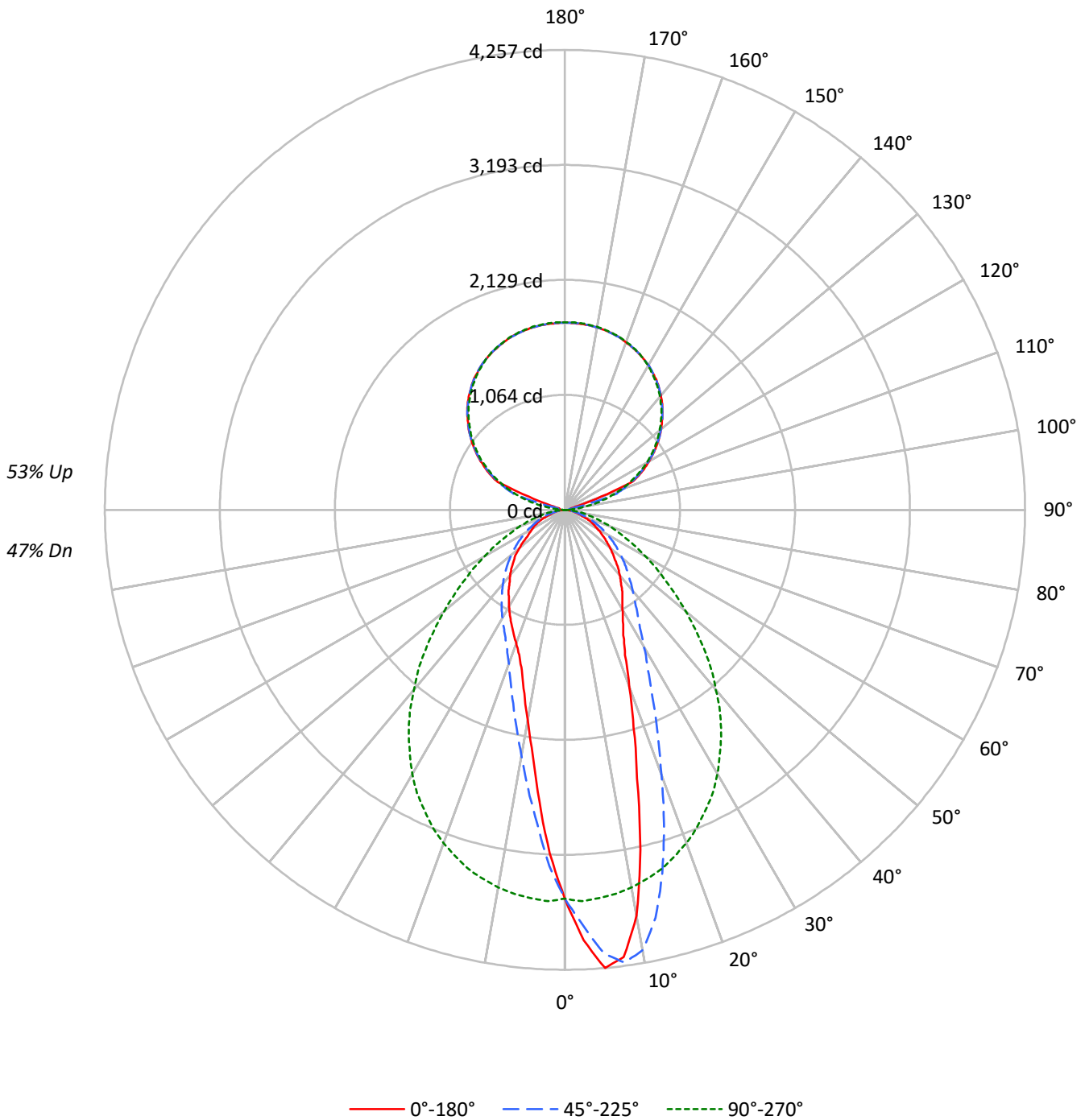
Lumens per Lamp: N/A
Luminaire Lumens: 10061.6 lumens
Efficiency: N/A
Efficacy: 152.2 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 66.1
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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	98	94	90	87	90	87	84	81	73	71	69	60	59	57	49	48	47	41				41
2	90	83	77	72	83	77	72	68	65	61	58	54	51	49	44	42	41	36				36
3	83	74	67	61	76	68	62	58	58	54	50	48	45	43	40	37	36	32				32
4	76	66	58	53	70	61	55	50	52	47	43	44	40	37	36	34	32	28				28
5	70	59	52	46	64	55	48	43	47	42	38	40	36	33	33	30	28	25				25
6	65	53	46	40	60	50	43	38	43	38	34	36	32	29	30	28	25	22				22
7	60	49	41	36	56	45	39	34	39	34	30	33	30	27	28	25	23	20				20
8	56	44	37	32	52	42	35	30	36	31	27	31	27	24	26	23	21	19				19
9	53	41	34	29	49	38	32	28	33	28	25	29	25	22	24	21	19	17				17
10	49	38	31	26	46	35	29	25	31	26	23	27	23	20	23	20	18	16				16

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	3.3
10°-20°	759.0	7.5
20°-30°	870.9	8.7
30°-40°	858.4	8.5
40°-50°	757.0	7.5
50°-60°	582.4	5.8
60°-70°	382.9	3.8
70°-80°	185.9	1.8
80°-90°	50.3	0.5
90°-100°	61.1	0.6
100°-110°	295.6	2.9
110°-120°	724.5	7.2
120°-130°	919.8	9.1
130°-140°	982.6	9.8
140°-150°	918.9	9.1
150°-160°	741.1	7.4
160°-170°	478.3	4.8
170°-180°	164.8	1.6
0°-30°	1957.9	19.5
0°-40°	2816.3	28.0
0°-60°	4155.7	41.3
0°-90°	4774.8	47.5
90°-120°	1081.2	10.7
90°-150°	3902.5	38.8
90°-180°	5287.0	52.5
0°-180°	10061.6	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°	39	31	1	31	39	19
95°	49	40	79	40	49	41
105°	57	282	384	282	57	118
115°	758	740	720	740	758	713
125°	1036	1031	1015	1031	1036	926
135°	1277	1277	1264	1277	1277	985
145°	1473	1470	1458	1470	1473	920
155°	1604	1605	1607	1605	1604	740
165°	1690	1689	1694	1689	1690	478
175°	1728	1729	1734	1729	1728	164
180°	1734	1734	1734	1734	1734	

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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°	38.7	38.1	37.5	36.9	36.4	35.5	34.4	33.2	32.1	30.9	27.2
92.5°	43.8	43.5	43.2	42.9	42.7	41.5	39.5	37.5	35.5	33.5	30.9
95°	49.0	49.0	49.0	49.0	49.0	48.0	46.0	44.0	41.9	39.9	36.8
97.5°	52.8	52.5	52.3	52.0	51.7	50.4	48.1	45.8	43.5	41.2	55.8
100°	54.1	53.8	53.5	53.3	53.0	51.7	49.4	47.1	44.8	42.5	87.2
102.5°	55.4	54.8	54.3	53.7	53.1	57.6	67.0	76.4	85.9	95.3	145.2
105°	56.7	56.1	55.5	55.0	54.4	79.5	130.1	180.8	231.5	282.2	307.9
107.5°	134.0	171.5	209.0	246.5	284.0	324.8	368.9	413.0	457.1	501.2	496.9
110°	354.3	395.3	436.2	477.2	518.1	543.3	552.7	562.2	571.6	581.1	577.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	671.3	671.9	672.4	673.0	673.6	672.6	670.0	667.4	664.8	662.3	659.1
115°	757.6	756.5	755.3	754.2	753.0	751.0	748.2	745.3	742.4	739.6	737.0
117.5°	827.2	826.9	826.6	826.3	826.0	824.7	822.5	820.2	817.9	815.6	814.2
120°	899.3	899.3	899.3	899.3	899.3	898.2	895.9	893.6	891.3	889.0	888.2
122.5°	970.2	969.9	969.6	969.3	969.1	968.2	966.8	965.3	963.9	962.5	961.3
125°	1035.9	1035.3	1034.8	1034.2	1033.6	1033.0	1032.5	1031.9	1031.3	1030.8	1029.6
127.5°	1100.3	1100.9	1101.5	1102.1	1102.6	1102.5	1101.6	1100.8	1099.9	1099.0	1097.6
130°	1162.2	1162.8	1163.3	1163.9	1164.5	1164.2	1163.0	1161.9	1160.7	1159.6	1158.5
132.5°	1218.9	1219.7	1220.6	1221.4	1222.3	1222.2	1221.0	1219.9	1218.7	1217.6	1216.7
135°	1276.9	1277.7	1278.6	1279.4	1280.3	1280.3	1279.4	1278.6	1277.7	1276.9	1275.7
137.5°	1332.3	1332.8	1333.4	1334.0	1334.5	1334.1	1332.7	1331.3	1329.8	1328.4	1327.8
140°	1381.2	1381.8	1382.4	1382.9	1383.5	1383.2	1382.1	1380.9	1379.8	1378.6	1377.8
142.5°	1426.3	1427.2	1428.0	1428.9	1429.7	1429.7	1428.9	1428.0	1427.2	1426.3	1425.5
145°	1472.7	1472.7	1472.7	1472.7	1472.7	1472.4	1471.8	1471.3	1470.7	1470.1	1469.5
147.5°	1506.2	1507.6	1509.1	1510.5	1511.9	1512.4	1511.8	1511.2	1510.6	1510.1	1509.5
150°	1544.8	1545.7	1546.6	1547.4	1548.3	1548.4	1547.9	1547.3	1546.7	1546.1	1545.6
152.5°	1575.8	1577.2	1578.6	1580.1	1581.5	1581.6	1580.5	1579.3	1578.2	1577.1	1576.8
155°	1604.1	1605.8	1607.6	1609.3	1611.0	1611.1	1609.7	1608.3	1606.8	1605.4	1605.1
157.5°	1628.6	1630.9	1633.2	1635.5	1637.8	1638.0	1636.3	1634.6	1632.9	1631.2	1631.5
160°	1651.8	1653.8	1655.8	1657.8	1659.8	1659.9	1658.2	1656.5	1654.8	1653.1	1653.4
162.5°	1673.7	1675.4	1677.1	1678.8	1680.6	1680.4	1678.4	1676.4	1674.4	1672.4	1672.7
165°	1690.4	1692.4	1694.5	1696.5	1698.5	1698.3	1696.0	1693.7	1691.4	1689.2	1689.4
167.5°	1703.3	1705.6	1707.9	1710.2	1712.5	1712.5	1710.2	1707.9	1705.6	1703.3	1703.3
170°	1714.9	1717.2	1719.5	1721.8	1724.1	1724.1	1721.8	1719.5	1717.2	1714.9	1714.9
172.5°	1721.4	1723.9	1726.5	1729.1	1731.7	1731.8	1729.5	1727.2	1724.9	1722.7	1722.4
175°	1727.8	1730.1	1732.4	1734.7	1737.0	1737.1	1735.1	1733.1	1731.1	1729.1	1728.8
177.5°	1729.1	1732.0	1734.8	1737.7	1740.5	1740.8	1738.5	1736.3	1734.0	1731.7	1731.4
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2

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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°	23.5	19.8	16.0	12.7	9.9	7.0	4.2	1.3	4.2	7.0	9.9
92.5°	28.3	25.8	23.2	22.8	24.5	26.2	27.9	29.6	27.9	26.2	24.5
95°	33.6	30.5	27.3	31.6	43.4	55.1	66.9	78.6	66.9	55.1	43.4
97.5°	70.4	85.0	99.6	110.9	119.0	127.0	135.0	143.0	135.0	127.0	119.0
100°	131.9	176.5	221.2	240.7	234.9	229.2	223.5	217.7	223.5	229.2	234.9
102.5°	195.0	244.8	294.6	317.7	314.0	310.2	306.5	302.8	306.5	310.2	314.0
105°	333.7	359.5	385.2	396.6	393.4	390.3	387.1	384.0	387.1	390.3	393.4
107.5°	492.6	488.3	484.0	480.6	478.0	475.4	472.9	470.3	472.9	475.4	478.0
110°	574.8	571.6	568.5	565.8	563.5	561.2	558.9	556.6	558.9	561.2	563.5



TEST NUMBER: P831801

CATALOG NUMBER: S123RDIP-S1000D1195U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	656.0	652.8	649.7	647.1	645.1	643.1	641.1	639.1	641.1	643.1	645.1
115°	734.4	731.8	729.3	727.1	725.4	723.7	722.0	720.2	722.0	723.7	725.4
117.5°	812.7	811.3	809.9	808.1	806.1	804.1	802.1	800.1	802.1	804.1	806.1
120°	887.3	886.5	885.6	883.9	881.3	878.7	876.1	873.6	876.1	878.7	881.3
122.5°	960.2	959.0	957.9	956.3	954.3	952.3	950.3	948.3	950.3	952.3	954.3
125°	1028.5	1027.3	1026.2	1024.5	1022.2	1019.9	1017.6	1015.3	1017.6	1019.9	1022.2
127.5°	1096.2	1094.8	1093.3	1091.5	1089.2	1086.9	1084.6	1082.3	1084.6	1086.9	1089.2
130°	1157.3	1156.2	1155.0	1153.3	1151.0	1148.7	1146.4	1144.1	1146.4	1148.7	1151.0
132.5°	1215.9	1215.0	1214.1	1212.6	1210.3	1208.0	1205.7	1203.4	1205.7	1208.0	1210.3
135°	1274.6	1273.4	1272.3	1270.8	1269.1	1267.4	1265.7	1264.0	1265.7	1267.4	1269.1
137.5°	1327.2	1326.7	1326.1	1324.7	1322.4	1320.1	1317.8	1315.5	1317.8	1320.1	1322.4
140°	1376.9	1376.1	1375.2	1373.9	1372.2	1370.5	1368.8	1367.0	1368.8	1370.5	1372.2
142.5°	1424.6	1423.7	1422.9	1421.6	1419.9	1418.2	1416.4	1414.7	1416.4	1418.2	1419.9
145°	1469.0	1468.4	1467.8	1466.5	1464.5	1462.5	1460.5	1458.5	1460.5	1462.5	1464.5
147.5°	1508.9	1508.3	1507.8	1506.8	1505.3	1503.9	1502.5	1501.0	1502.5	1503.9	1505.3
150°	1545.0	1544.4	1543.8	1543.1	1542.3	1541.4	1540.6	1539.7	1540.6	1541.4	1542.3
152.5°	1576.5	1576.2	1575.9	1575.6	1575.3	1575.1	1574.8	1574.5	1574.8	1575.1	1575.3
155°	1604.8	1604.5	1604.3	1604.4	1605.0	1605.5	1606.1	1606.7	1606.1	1605.5	1605.0
157.5°	1631.7	1632.0	1632.3	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5	1632.5
160°	1653.7	1653.9	1654.2	1654.5	1654.8	1655.1	1655.4	1655.7	1655.4	1655.1	1654.8
162.5°	1673.0	1673.3	1673.5	1674.1	1675.0	1675.8	1676.7	1677.6	1676.7	1675.8	1675.0
165°	1689.7	1690.0	1690.3	1690.9	1691.7	1692.6	1693.4	1694.3	1693.4	1692.6	1691.7
167.5°	1703.3	1703.3	1703.3	1703.9	1705.0	1706.2	1707.3	1708.5	1707.3	1706.2	1705.0
170°	1714.9	1714.9	1714.9	1715.5	1716.6	1717.8	1718.9	1720.1	1718.9	1717.8	1716.6
172.5°	1722.1	1721.8	1721.5	1722.1	1723.5	1724.9	1726.4	1727.8	1726.4	1724.9	1723.5
175°	1728.5	1728.2	1728.0	1728.5	1730.0	1731.4	1732.8	1734.2	1732.8	1731.4	1730.0
177.5°	1731.1	1730.8	1730.5	1731.1	1732.5	1734.0	1735.4	1736.8	1735.4	1734.0	1732.5
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2

TEST NUMBER: P831801

CATALOG NUMBER: S123RDIP-S1000D1195U850-4F0-1E-UDD-G

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°	12.7	16.0	19.8	23.5	27.2	30.9	32.1	33.2	34.4	35.5	36.4
92.5°	22.8	23.2	25.8	28.3	30.9	33.5	35.5	37.5	39.5	41.5	42.7
95°	31.6	27.3	30.5	33.6	36.8	39.9	41.9	44.0	46.0	48.0	49.0
97.5°	110.9	99.6	85.0	70.4	55.8	41.2	43.5	45.8	48.1	50.4	51.7
100°	240.7	221.2	176.5	131.9	87.2	42.5	44.8	47.1	49.4	51.7	53.0
102.5°	317.7	294.6	244.8	195.0	145.2	95.3	85.9	76.4	67.0	57.6	53.1
105°	396.6	385.2	359.5	333.7	307.9	282.2	231.5	180.8	130.1	79.5	54.4
107.5°	480.6	484.0	488.3	492.6	496.9	501.2	457.1	413.0	368.9	324.8	284.0
110°	565.8	568.5	571.6	574.8	577.9	581.1	571.6	562.2	552.7	543.3	518.1



TEST NUMBER: P831801

CATALOG NUMBER: S123RDIP-S1000D1195U850-4F0-1E-UDD-G

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	647.1	649.7	652.8	656.0	659.1	662.3	664.8	667.4	670.0	672.6	673.6
115°	727.1	729.3	731.8	734.4	737.0	739.6	742.4	745.3	748.2	751.0	753.0
117.5°	808.1	809.9	811.3	812.7	814.2	815.6	817.9	820.2	822.5	824.7	826.0
120°	883.9	885.6	886.5	887.3	888.2	889.0	891.3	893.6	895.9	898.2	899.3
122.5°	956.3	957.9	959.0	960.2	961.3	962.5	963.9	965.3	966.8	968.2	969.1
125°	1024.5	1026.2	1027.3	1028.5	1029.6	1030.8	1031.3	1031.9	1032.5	1033.0	1033.6
127.5°	1091.5	1093.3	1094.8	1096.2	1097.6	1099.0	1099.9	1100.8	1101.6	1102.5	1102.6
130°	1153.3	1155.0	1156.2	1157.3	1158.5	1159.6	1160.7	1161.9	1163.0	1164.2	1164.5
132.5°	1212.6	1214.1	1215.0	1215.9	1216.7	1217.6	1218.7	1219.9	1221.0	1222.2	1222.3
135°	1270.8	1272.3	1273.4	1274.6	1275.7	1276.9	1277.7	1278.6	1279.4	1280.3	1280.3
137.5°	1324.7	1326.1	1326.7	1327.2	1327.8	1328.4	1329.8	1331.3	1332.7	1334.1	1334.5
140°	1373.9	1375.2	1376.1	1376.9	1377.8	1378.6	1379.8	1380.9	1382.1	1383.2	1383.5
142.5°	1421.6	1422.9	1423.7	1424.6	1425.5	1426.3	1427.2	1428.0	1428.9	1429.7	1429.7
145°	1466.5	1467.8	1468.4	1469.0	1469.5	1470.1	1470.7	1471.3	1471.8	1472.4	1472.7
147.5°	1506.8	1507.8	1508.3	1508.9	1509.5	1510.1	1510.6	1511.2	1511.8	1512.4	1511.9
150°	1543.1	1543.8	1544.4	1545.0	1545.6	1546.1	1546.7	1547.3	1547.9	1548.4	1548.3
152.5°	1575.6	1575.9	1576.2	1576.5	1576.8	1577.1	1578.2	1579.3	1580.5	1581.6	1581.5
155°	1604.4	1604.3	1604.5	1604.8	1605.1	1605.4	1606.8	1608.3	1609.7	1611.1	1611.0
157.5°	1632.5	1632.3	1632.0	1631.7	1631.5	1631.2	1632.9	1634.6	1636.3	1638.0	1637.8
160°	1654.5	1654.2	1653.9	1653.7	1653.4	1653.1	1654.8	1656.5	1658.2	1659.9	1659.8
162.5°	1674.1	1673.5	1673.3	1673.0	1672.7	1672.4	1674.4	1676.4	1678.4	1680.4	1680.6
165°	1690.9	1690.3	1690.0	1689.7	1689.4	1689.2	1691.4	1693.7	1696.0	1698.3	1698.5
167.5°	1703.9	1703.3	1703.3	1703.3	1703.3	1703.3	1705.6	1707.9	1710.2	1712.5	1712.5
170°	1715.5	1714.9	1714.9	1714.9	1714.9	1714.9	1717.2	1719.5	1721.8	1724.1	1724.1
172.5°	1722.1	1721.5	1721.8	1722.1	1722.4	1722.7	1724.9	1727.2	1729.5	1731.8	1731.7
175°	1728.5	1728.0	1728.2	1728.5	1728.8	1729.1	1731.1	1733.1	1735.1	1737.1	1737.0
177.5°	1731.1	1730.5	1730.8	1731.1	1731.4	1731.7	1734.0	1736.3	1738.5	1740.8	1740.5
180°	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831801

CATALOG NUMBER: S123RDIP-S1000D1195U850-4F0-1E-UDD-G

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°	36.9	37.5	38.1	38.7
92.5°	42.9	43.2	43.5	43.8
95°	49.0	49.0	49.0	49.0
97.5°	52.0	52.3	52.5	52.8
100°	53.3	53.5	53.8	54.1
102.5°	53.7	54.3	54.8	55.4
105°	55.0	55.5	56.1	56.7
107.5°	246.5	209.0	171.5	134.0
110°	477.2	436.2	395.3	354.3



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	673.0	672.4	671.9	671.3
115°	754.2	755.3	756.5	757.6
117.5°	826.3	826.6	826.9	827.2
120°	899.3	899.3	899.3	899.3
122.5°	969.3	969.6	969.9	970.2
125°	1034.2	1034.8	1035.3	1035.9
127.5°	1102.1	1101.5	1100.9	1100.3
130°	1163.9	1163.3	1162.8	1162.2
132.5°	1221.4	1220.6	1219.7	1218.9
135°	1279.4	1278.6	1277.7	1276.9
137.5°	1334.0	1333.4	1332.8	1332.3
140°	1382.9	1382.4	1381.8	1381.2
142.5°	1428.9	1428.0	1427.2	1426.3
145°	1472.7	1472.7	1472.7	1472.7
147.5°	1510.5	1509.1	1507.6	1506.2
150°	1547.4	1546.6	1545.7	1544.8
152.5°	1580.1	1578.6	1577.2	1575.8
155°	1609.3	1607.6	1605.8	1604.1
157.5°	1635.5	1633.2	1630.9	1628.6
160°	1657.8	1655.8	1653.8	1651.8
162.5°	1678.8	1677.1	1675.4	1673.7
165°	1696.5	1694.5	1692.4	1690.4
167.5°	1710.2	1707.9	1705.6	1703.3
170°	1721.8	1719.5	1717.2	1714.9
172.5°	1729.1	1726.5	1723.9	1721.4
175°	1734.7	1732.4	1730.1	1727.8
177.5°	1737.7	1734.8	1732.0	1729.1
180°	1734.2	1734.2	1734.2	1734.2



TEST NUMBER: P831801

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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	13.21	13.99	14.20	14.99	16.30	17.87	18.66	18.86	19.65	20.96
	3H	14.42	15.13	15.43	16.13	17.47	19.37	20.07	20.37	21.07	22.41
	4H	14.80	15.47	15.82	16.48	17.82	19.85	20.52	20.87	21.53	22.87
	6H	15.08	15.70	16.11	16.71	18.06	20.16	20.78	21.19	21.79	23.14
	8H	15.17	15.75	16.20	16.78	18.13	20.24	20.82	21.27	21.85	23.20
	12H	15.22	15.77	16.25	16.79	18.17	20.27	20.83	21.31	21.85	23.22
4H	2H	13.92	14.59	14.94	15.60	16.94	17.86	18.53	18.88	19.53	20.87
	3H	15.29	15.84	16.32	16.88	18.23	19.51	20.07	20.54	21.10	22.46
	4H	15.74	16.25	16.78	17.28	18.65	20.12	20.63	21.15	21.65	23.03
	6H	16.11	16.54	17.15	17.59	18.97	20.56	20.99	21.60	22.04	23.41
	8H	16.23	16.64	17.28	17.68	19.07	20.69	21.09	21.73	22.13	23.52
	12H	16.31	16.67	17.37	17.73	19.12	20.75	21.11	21.81	22.17	23.56
8H	4H	16.06	16.46	17.10	17.50	18.89	20.08	20.49	21.13	21.53	22.92
	6H	16.52	16.85	17.59	17.94	19.32	20.58	20.91	21.65	22.00	23.38
	8H	16.71	17.00	17.79	18.07	19.48	20.76	21.06	21.84	22.13	23.53
	12H	16.85	17.11	17.93	18.17	19.62	20.88	21.14	21.96	22.20	23.65
12H	4H	16.06	16.43	17.13	17.49	18.88	20.03	20.40	21.10	21.46	22.85
	6H	16.58	16.87	17.65	17.94	19.34	20.55	20.85	21.63	21.92	23.32
	8H	16.79	17.05	17.87	18.11	19.56	20.74	21.00	21.82	22.07	23.51