

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: P831082

Luminaire Tested: S123DIP-S1000D1195U850-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831082
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-9)
Test Lab: INNOVATION CENTER
Issue Date: 05/03/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DIP-S1000D1195U850-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

Summary

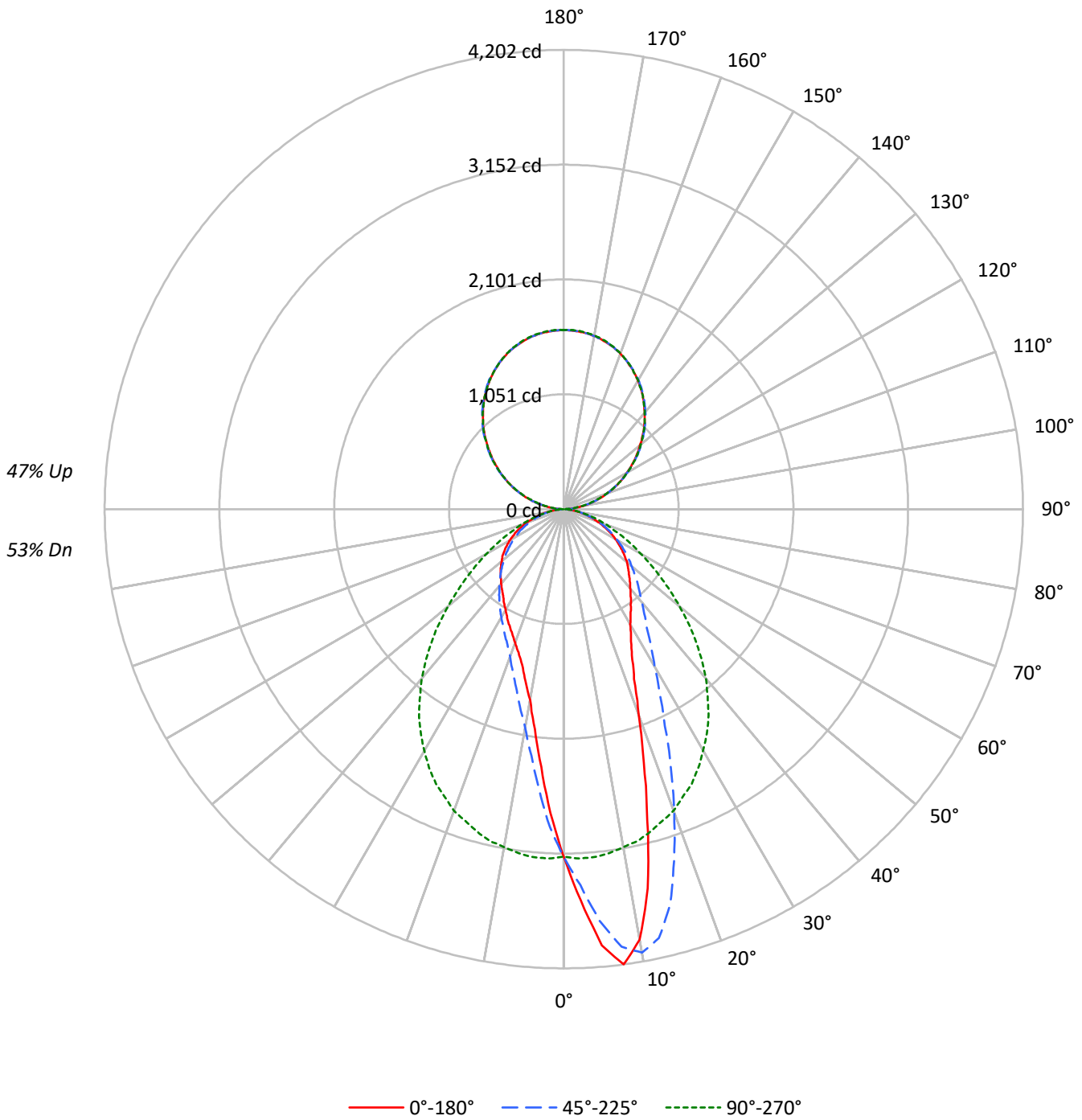
Lumens per Lamp: N/A
Luminaire Lumens: 9661.1 lumens
Efficiency: N/A
Efficacy: 146.2 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 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	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	64	62	60	53	52	51	46				
2	91	84	78	73	84	78	73	68	67	63	60	57	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	30	26				
6	65	54	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	26	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°	34235	34235	34235	34235	34235
5°	43296	40864	34540	27835	25579
10°	43715	45038	34311	22189	19390
15°	32926	41815	34077	18790	16397
20°	22942	33837	33643	16433	14893
25°	17493	26021	32901	15118	13971
30°	15134	20673	31717	14189	13226
35°	14040	17454	30350	13517	12703
40°	13293	15657	28431	12878	12525
45°	12851	14490	25994	12379	12446
50°	12630	13569	23107	11925	12382
55°	12159	12892	20273	11494	12436
60°	11724	12170	17474	11089	12232
65°	11013	11484	15073	10656	11991
70°	10172	10612	12818	9939	11286
75°	9208	9515	10988	9237	10310
80°	7593	8325	8691	8052	8691
85°	6015	6743	6385	6830	6928

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 29678 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.7	3.1
10°-20°	748.0	7.7
20°-30°	885.7	9.2
30°-40°	890.6	9.2
40°-50°	817.1	8.5
50°-60°	674.4	7.0
60°-70°	477.1	4.9
70°-80°	254.6	2.6
80°-90°	68.1	0.7
90°-100°	105.6	1.1
100°-110°	319.6	3.3
110°-120°	544.1	5.6
120°-130°	715.7	7.4
130°-140°	804.5	8.3
140°-150°	790.9	8.2
150°-160°	665.9	6.9
160°-170°	443.3	4.6
170°-180°	155.2	1.6
0°-30°	1934.4	20.0
0°-40°	2825.0	29.2
0°-60°	4316.4	44.7
0°-90°	5116.2	53.0
90°-120°	969.2	10.0
90°-150°	3280.5	34.0
90°-180°	4545.0	47.0
0°-180°	9661.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3180	3180	3180	3180	3180	
5°	4007	3782	3197	2576	2367	382
15°	2955	3752	3058	1686	1471	816
25°	1473	2191	2770	1273	1176	695
35°	1068	1328	2310	1029	967	671
45°	844	952	1708	813	818	654
55°	648	687	1080	612	663	580
65°	432	451	592	418	471	430
75°	221	229	264	222	248	233
85°	49	55	52	55	56	54
90°	39	31	1	31	39	21
95°	100	95	76	95	100	101
105°	307	304	290	304	307	325
115°	549	549	548	549	549	544
125°	792	803	802	803	792	709
135°	1039	1046	1040	1046	1039	799
145°	1262	1268	1262	1268	1262	788
155°	1442	1446	1444	1446	1442	664
165°	1568	1569	1573	1569	1568	443
175°	1630	1631	1636	1631	1630	155
180°	1640	1640	1640	1640	1640	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5
2.5°	3584.9	3581.2	3577.5	3559.1	3540.6	3531.8	3522.9	3496.4	3469.8	3440.3	3410.8
5°	4007.0	4017.3	4027.7	4015.9	4004.1	3967.9	3931.7	3883.8	3835.8	3781.9	3728.1
7.5°	4201.8	4207.7	4213.6	4206.2	4198.9	4189.3	4179.7	4136.9	4094.1	4038.7	3983.4
10°	3999.6	4012.9	4026.2	4055.0	4083.7	4116.2	4148.7	4142.8	4136.9	4120.6	4104.4
12.5°	3555.4	3571.6	3587.9	3645.4	3703.0	3776.8	3850.6	3914.0	3977.5	4021.8	4066.0
15°	2954.7	2999.7	3044.7	3097.1	3149.5	3258.0	3366.5	3500.0	3633.6	3752.4	3871.2
17.5°	2433.7	2450.7	2467.7	2523.7	2579.8	2716.4	2852.9	3007.1	3161.3	3358.4	3555.4
20°	2002.8	2018.3	2033.8	2107.6	2181.3	2288.3	2395.3	2568.8	2742.2	2954.0	3165.8
22.5°	1682.5	1706.9	1731.2	1772.5	1813.9	1916.4	2019.0	2173.2	2327.5	2561.4	2795.3
25°	1472.9	1490.6	1508.3	1533.4	1558.5	1640.4	1722.3	1849.3	1976.2	2190.9	2405.7
27.5°	1329.8	1337.1	1344.5	1369.6	1394.7	1447.8	1501.0	1610.2	1719.4	1901.7	2083.9
30°	1217.6	1222.8	1227.9	1250.1	1272.2	1308.4	1344.5	1423.5	1502.4	1663.3	1824.2
32.5°	1139.4	1143.1	1146.8	1163.7	1180.7	1206.5	1232.4	1289.9	1347.5	1480.3	1613.1
35°	1068.5	1070.7	1073.0	1085.5	1098.1	1117.2	1136.4	1180.0	1223.5	1328.3	1433.1
37.5°	1006.5	1009.5	1012.5	1019.8	1027.2	1044.2	1061.2	1095.8	1130.5	1211.0	1291.4
40°	946.0	951.2	956.4	961.5	966.7	980.7	994.7	1021.3	1047.9	1114.3	1180.7
42.5°	894.4	899.5	904.7	906.9	909.1	917.3	925.4	949.7	974.1	1023.5	1073.0
45°	844.2	846.4	848.6	850.8	853.1	859.7	866.3	887.7	909.1	951.9	994.7
47.5°	798.4	798.4	798.4	799.9	801.4	807.3	813.2	828.7	844.2	877.4	910.6
50°	754.2	754.2	754.2	752.0	749.7	753.4	757.1	768.9	780.7	810.3	839.8
52.5°	701.0	701.0	701.0	701.8	702.5	702.5	702.5	712.8	723.2	749.7	776.3
55°	647.9	650.9	653.8	651.6	649.4	650.9	652.3	659.0	665.6	687.0	708.4
57.5°	594.8	596.3	597.7	597.0	596.3	597.0	597.7	603.6	609.5	625.8	642.0
60°	544.6	544.6	544.6	543.1	541.6	543.1	544.6	547.6	550.5	565.3	580.0
62.5°	488.5	489.3	490.0	490.7	491.5	490.0	488.5	492.2	495.9	507.0	518.0
65°	432.4	433.2	433.9	436.1	438.3	436.9	435.4	439.1	442.8	450.9	459.0
67.5°	382.3	380.8	379.3	380.0	380.8	383.0	385.2	385.9	386.7	395.5	404.4
70°	323.2	324.7	326.2	325.4	324.7	325.4	326.2	328.4	330.6	337.2	343.9
72.5°	270.1	270.8	271.6	271.6	271.6	273.0	274.5	276.7	278.9	282.6	286.3
75°	221.4	221.4	221.4	222.9	224.3	225.1	225.8	225.8	225.8	228.8	231.7
77.5°	168.2	171.9	175.6	174.9	174.2	175.6	177.1	179.3	181.5	183.0	184.5
80°	122.5	122.5	122.5	123.2	124.0	126.2	128.4	129.9	131.4	134.3	137.3
82.5°	78.2	79.0	79.7	81.9	84.1	85.6	87.1	89.3	91.5	91.5	91.5
85°	48.7	47.2	45.8	47.2	48.7	50.2	51.7	52.4	53.1	54.6	56.1
87.5°	23.6	23.6	23.6	23.6	23.6	24.4	25.1	25.1	25.1	25.1	25.1
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°	55.4	56.0	56.6	57.1	57.7	57.6	56.7	55.8	55.0	54.1	52.4
95°	100.5	100.5	100.5	100.5	100.5	99.9	98.8	97.6	96.5	95.4	93.1
97.5°	144.3	144.6	144.9	145.2	145.5	144.9	143.5	142.0	140.6	139.2	137.4
100°	195.9	195.3	194.7	194.1	193.6	192.8	192.0	191.1	190.3	189.4	188.0
102.5°	248.7	249.0	249.3	249.5	249.8	249.5	248.7	247.8	247.0	246.1	244.1
105°	306.7	306.1	305.5	305.0	304.4	304.1	304.1	304.1	304.1	304.1	301.5
107.5°	365.9	366.2	366.5	366.8	367.1	366.8	365.9	365.1	364.2	363.4	362.2
110°	426.5	427.1	427.6	428.2	428.8	428.5	427.4	426.2	425.1	423.9	423.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	490.9	490.9	490.9	490.9	490.9	490.2	488.8	487.3	485.9	484.5	484.5
115°	548.9	549.2	549.5	549.8	550.1	550.1	549.8	549.5	549.2	548.9	549.5
117.5°	608.2	609.0	609.9	610.8	611.6	612.1	612.1	612.1	612.1	612.1	612.6
120°	671.3	671.9	672.5	673.0	673.6	674.0	674.3	674.6	674.9	675.2	676.6
122.5°	731.9	732.7	733.6	734.5	735.3	736.2	737.0	737.9	738.8	739.6	740.2
125°	792.4	793.6	794.7	795.9	797.0	798.2	799.3	800.5	801.6	802.8	803.3
127.5°	853.0	854.1	855.3	856.4	857.6	859.0	860.7	862.5	864.2	865.9	866.5
130°	912.3	914.3	916.3	918.3	920.3	921.9	923.0	924.2	925.3	926.5	927.3
132.5°	974.1	975.6	977.0	978.4	979.9	981.3	982.7	984.1	985.6	987.0	987.6
135°	1038.6	1039.1	1039.7	1040.3	1040.8	1041.7	1042.8	1044.0	1045.1	1046.3	1046.6
137.5°	1095.2	1096.1	1097.0	1097.8	1098.7	1099.8	1101.3	1102.7	1104.1	1105.6	1104.7
140°	1150.7	1152.7	1154.7	1156.7	1158.7	1159.8	1160.1	1160.4	1160.7	1161.0	1160.7
142.5°	1207.3	1208.8	1210.2	1211.6	1213.1	1213.9	1214.2	1214.5	1214.8	1215.1	1214.5
145°	1261.5	1262.6	1263.8	1264.9	1266.0	1266.8	1267.1	1267.3	1267.6	1267.9	1267.1
147.5°	1310.4	1312.1	1313.9	1315.6	1317.3	1318.2	1318.2	1318.2	1318.2	1318.2	1317.3
150°	1356.8	1358.5	1360.3	1362.0	1363.7	1364.5	1364.5	1364.5	1364.5	1364.5	1364.0
152.5°	1401.9	1403.3	1404.8	1406.2	1407.6	1408.1	1407.5	1406.9	1406.4	1405.8	1405.5
155°	1441.9	1443.9	1445.9	1447.9	1449.9	1450.3	1449.2	1448.0	1446.9	1445.7	1445.4
157.5°	1479.2	1480.9	1482.7	1484.4	1486.1	1486.4	1485.2	1484.1	1483.0	1481.8	1481.5
160°	1515.3	1516.5	1517.6	1518.7	1519.9	1519.7	1518.3	1516.9	1515.5	1514.0	1514.0
162.5°	1542.4	1544.4	1546.4	1548.4	1550.4	1550.7	1549.2	1547.8	1546.4	1544.9	1544.7
165°	1568.1	1570.1	1572.1	1574.2	1576.2	1576.3	1574.6	1572.9	1571.1	1569.4	1569.4
167.5°	1591.3	1593.0	1594.8	1596.5	1598.2	1598.2	1596.5	1594.8	1593.0	1591.3	1591.0
170°	1608.1	1610.1	1612.1	1614.1	1616.1	1616.1	1614.1	1612.1	1610.1	1608.1	1608.1
172.5°	1621.0	1623.0	1625.0	1627.0	1629.0	1629.1	1627.4	1625.7	1624.0	1622.3	1622.3
175°	1630.0	1632.0	1634.0	1636.0	1638.0	1638.1	1636.4	1634.7	1633.0	1631.3	1631.3
177.5°	1635.1	1637.1	1639.1	1641.2	1643.2	1643.3	1641.6	1639.9	1638.1	1636.4	1636.4
180°	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5
2.5°	3401.9	3393.0	3360.6	3328.1	3291.2	3254.3	3227.0	3199.7	3159.1	3118.5	3085.3
5°	3686.7	3645.4	3576.8	3508.2	3415.2	3322.2	3259.5	3196.7	3112.6	3028.5	2961.3
7.5°	3912.5	3841.7	3745.8	3649.8	3528.1	3406.3	3291.2	3176.1	3047.7	2919.3	2814.5
10°	4056.4	4008.5	3897.8	3787.1	3624.0	3460.9	3300.1	3139.2	2973.9	2808.6	2669.9
12.5°	4070.5	4074.9	3973.1	3871.2	3686.7	3502.3	3306.7	3111.1	2903.0	2695.0	2533.3
15°	3947.2	4023.2	3967.2	3911.1	3725.1	3539.2	3298.6	3058.0	2818.2	2578.4	2391.7
17.5°	3718.5	3881.6	3889.7	3897.8	3711.8	3525.9	3259.5	2993.1	2721.5	2450.0	2253.7
20°	3406.3	3646.9	3729.5	3812.2	3660.9	3509.6	3223.3	2937.0	2633.0	2328.9	2123.0
22.5°	3087.5	3379.8	3531.0	3682.3	3570.1	3458.0	3153.2	2848.4	2527.4	2206.4	1997.6
25°	2724.5	3043.3	3275.7	3508.2	3439.5	3370.9	3070.6	2770.2	2428.6	2086.9	1873.6
27.5°	2407.9	2731.8	3012.3	3292.7	3277.9	3263.2	2965.0	2666.9	2317.1	1967.3	1761.5
30°	2126.0	2427.8	2741.4	3055.1	3091.2	3127.4	2839.6	2551.8	2201.3	1850.7	1652.2
32.5°	1876.6	2140.0	2476.5	2813.0	2883.9	2954.7	2695.0	2435.2	2088.4	1741.5	1550.4
35°	1672.2	1911.3	2247.8	2584.3	2672.8	2761.4	2535.6	2309.7	1971.8	1633.8	1451.5
37.5°	1491.4	1691.4	2019.7	2348.1	2456.6	2565.1	2362.9	2160.7	1844.1	1527.5	1360.0
40°	1341.6	1502.4	1804.3	2106.1	2231.5	2357.0	2190.2	2023.4	1723.1	1422.7	1268.5
42.5°	1216.1	1359.3	1633.1	1906.8	2027.1	2147.4	2006.5	1865.5	1598.4	1331.2	1190.3
45°	1109.1	1223.5	1472.2	1720.9	1835.3	1949.6	1828.6	1707.6	1472.2	1236.8	1105.4
47.5°	1008.8	1106.9	1319.4	1532.0	1633.8	1735.6	1641.2	1546.7	1347.5	1148.2	1029.4
50°	918.7	997.7	1183.7	1369.6	1458.2	1546.7	1463.3	1379.9	1216.1	1052.3	949.0
52.5°	840.5	904.7	1060.4	1216.1	1292.1	1368.1	1296.6	1225.0	1095.1	965.2	875.2
55°	763.0	817.6	952.7	1087.7	1139.4	1191.0	1135.7	1080.3	975.6	870.8	794.8
57.5°	690.7	739.4	850.1	960.8	1000.6	1040.5	990.3	940.1	861.2	782.2	718.8
60°	619.9	659.7	752.0	844.2	868.6	892.9	852.3	811.7	756.4	701.0	644.2
62.5°	554.2	590.4	659.0	727.6	743.8	760.1	729.1	698.1	656.0	614.0	569.7
65°	486.3	513.6	569.7	625.8	636.1	646.4	619.1	591.8	560.1	528.4	495.9
67.5°	423.6	442.8	488.5	534.3	535.0	535.7	513.6	491.5	473.8	456.0	430.2
70°	362.3	380.8	411.0	441.3	442.0	442.8	425.1	407.3	394.1	380.8	361.6
72.5°	299.6	312.9	335.8	358.6	357.2	355.7	344.6	333.5	323.2	312.9	298.9
75°	242.8	253.9	269.3	284.8	280.4	276.0	270.1	264.2	255.3	246.5	237.6
77.5°	191.1	197.8	206.6	215.5	212.5	209.6	204.4	199.2	192.6	186.0	182.3
80°	140.2	143.2	149.1	155.0	153.5	152.0	146.1	140.2	138.7	137.3	132.1
82.5°	95.2	98.9	100.4	101.8	101.1	100.4	95.9	91.5	90.0	88.6	87.8
85°	56.8	57.6	58.3	59.0	56.8	54.6	53.1	51.7	51.7	51.7	50.9
87.5°	25.8	26.6	26.6	26.6	25.8	25.1	23.6	22.1	22.9	23.6	23.6
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°	50.7	49.0	47.2	45.5	43.8	42.1	40.4	38.7	40.4	42.1	43.8
95°	90.8	88.5	86.2	84.0	82.0	80.0	78.0	76.0	78.0	80.0	82.0
97.5°	135.7	134.0	132.3	130.7	129.3	127.9	126.4	125.0	126.4	127.9	129.3
100°	186.6	185.1	183.7	182.1	180.4	178.7	177.0	175.2	177.0	178.7	180.4
102.5°	242.1	240.1	238.1	236.7	235.8	234.9	234.1	233.2	234.1	234.9	235.8
105°	298.9	296.4	293.8	292.2	291.6	291.1	290.5	289.9	290.5	291.1	291.6
107.5°	361.1	359.9	358.8	358.1	357.8	357.5	357.2	356.9	357.2	357.5	357.8
110°	422.8	422.2	421.6	421.1	420.5	419.9	419.3	418.8	419.3	419.9	420.5



TEST NUMBER: P831082

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	484.5	484.5	484.5	484.3	484.1	483.8	483.5	483.2	483.5	483.8	484.1
115°	550.1	550.6	551.2	551.1	550.2	549.3	548.5	547.6	548.5	549.3	550.2
117.5°	613.2	613.8	614.3	614.5	614.2	613.9	613.6	613.3	613.6	613.9	614.2
120°	678.1	679.5	680.9	680.8	679.1	677.3	675.6	673.9	675.6	677.3	679.1
122.5°	740.8	741.3	741.9	741.6	740.5	739.3	738.2	737.0	738.2	739.3	740.5
125°	803.9	804.5	805.0	804.9	804.0	803.2	802.3	801.5	802.3	803.2	804.0
127.5°	867.0	867.6	868.2	867.6	865.9	864.2	862.5	860.7	862.5	864.2	865.9
130°	928.2	929.0	929.9	929.2	926.9	924.6	922.3	920.0	922.3	924.6	926.9
132.5°	988.2	988.7	989.3	988.4	986.2	983.9	981.6	979.3	981.6	983.9	986.2
135°	1046.9	1047.1	1047.4	1046.7	1045.0	1043.3	1041.6	1039.8	1041.6	1043.3	1045.0
137.5°	1103.8	1103.0	1102.1	1101.0	1099.5	1098.1	1096.7	1095.2	1096.7	1098.1	1099.5
140°	1160.4	1160.1	1159.8	1159.0	1157.5	1156.1	1154.7	1153.2	1154.7	1156.1	1157.5
142.5°	1213.9	1213.4	1212.8	1211.8	1210.4	1208.9	1207.5	1206.1	1207.5	1208.9	1210.4
145°	1266.2	1265.3	1264.5	1263.8	1263.2	1262.6	1262.0	1261.5	1262.0	1262.6	1263.2
147.5°	1316.4	1315.6	1314.7	1313.7	1312.6	1311.4	1310.3	1309.1	1310.3	1311.4	1312.6
150°	1363.4	1362.8	1362.3	1361.7	1361.1	1360.5	1360.0	1359.4	1360.0	1360.5	1361.1
152.5°	1405.2	1404.9	1404.6	1404.1	1403.2	1402.3	1401.5	1400.6	1401.5	1402.3	1403.2
155°	1445.2	1444.9	1444.6	1444.4	1444.4	1444.4	1444.4	1444.4	1444.4	1444.4	1444.4
157.5°	1481.2	1480.9	1480.7	1480.7	1480.9	1481.2	1481.5	1481.8	1481.5	1481.2	1480.9
160°	1514.0	1514.0	1514.0	1514.3	1514.9	1515.5	1516.0	1516.6	1516.0	1515.5	1514.9
162.5°	1544.4	1544.1	1543.8	1544.1	1544.9	1545.8	1546.7	1547.5	1546.7	1545.8	1544.9
165°	1569.4	1569.4	1569.4	1569.9	1570.7	1571.6	1572.4	1573.3	1572.4	1571.6	1570.7
167.5°	1590.8	1590.5	1590.2	1590.6	1591.8	1592.9	1594.1	1595.2	1594.1	1592.9	1591.8
170°	1608.1	1608.1	1608.1	1608.7	1609.8	1610.9	1612.1	1613.2	1612.1	1610.9	1609.8
172.5°	1622.3	1622.3	1622.3	1622.8	1624.0	1625.1	1626.3	1627.4	1626.3	1625.1	1624.0
175°	1631.3	1631.3	1631.3	1631.8	1633.0	1634.1	1635.3	1636.4	1635.3	1634.1	1633.0
177.5°	1636.4	1636.4	1636.4	1637.0	1638.1	1639.3	1640.4	1641.6	1640.4	1639.3	1638.1
180°	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3



TEST NUMBER: P831082

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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5	3180.5
2.5°	3052.1	3023.3	2994.6	2972.4	2950.3	2912.6	2875.0	2866.2	2857.3	2844.8	2832.2
5°	2894.2	2823.4	2752.5	2689.0	2625.6	2576.1	2526.7	2494.2	2461.8	2438.1	2414.5
7.5°	2709.7	2603.4	2497.2	2421.9	2346.6	2275.1	2203.5	2180.6	2157.7	2126.7	2095.7
10°	2531.1	2413.8	2296.5	2198.3	2100.2	2030.1	1960.0	1931.9	1903.9	1864.8	1825.7
12.5°	2371.7	2243.3	2114.9	2016.0	1917.2	1849.3	1781.4	1740.8	1700.2	1678.1	1655.9
15°	2205.0	2067.7	1930.4	1838.9	1747.4	1686.2	1624.9	1589.5	1554.1	1532.7	1511.3
17.5°	2057.4	1921.6	1785.8	1698.0	1610.2	1554.1	1498.0	1467.0	1436.0	1419.8	1403.6
20°	1917.2	1784.3	1651.5	1565.9	1480.3	1434.6	1388.8	1368.9	1349.0	1335.7	1322.4
22.5°	1788.8	1658.1	1527.5	1454.5	1381.4	1344.5	1307.6	1293.6	1279.6	1268.5	1257.4
25°	1660.4	1543.8	1427.2	1365.2	1303.2	1272.9	1242.7	1228.7	1214.6	1203.6	1192.5
27.5°	1555.6	1444.1	1332.7	1279.6	1226.5	1202.8	1179.2	1168.2	1157.1	1146.8	1136.4
30°	1453.7	1354.1	1254.5	1208.7	1163.0	1141.6	1120.2	1109.1	1098.1	1088.5	1078.9
32.5°	1359.3	1273.7	1188.1	1146.0	1104.0	1086.2	1068.5	1055.3	1042.0	1034.6	1027.2
35°	1269.3	1192.5	1115.8	1081.1	1046.4	1028.7	1011.0	999.9	988.8	982.9	977.0
37.5°	1192.5	1123.9	1055.3	1022.0	988.8	971.9	954.9	945.3	935.7	933.5	931.3
40°	1114.3	1055.3	996.2	963.7	931.3	916.5	901.8	895.9	890.0	888.5	887.0
42.5°	1049.3	991.8	934.2	904.7	875.2	862.6	850.1	847.2	844.2	846.4	848.6
45°	974.1	926.1	878.1	850.8	823.5	813.2	802.9	800.7	798.4	802.9	807.3
47.5°	910.6	866.3	822.1	796.2	770.4	763.0	755.6	754.9	754.2	760.1	766.0
50°	845.7	802.9	760.1	739.4	718.8	712.1	705.5	707.7	709.9	719.5	729.1
52.5°	785.2	745.3	705.5	686.3	667.1	662.7	658.2	663.4	668.6	678.9	689.2
55°	718.8	682.6	646.4	631.7	616.9	612.5	608.1	618.4	628.7	638.3	647.9
57.5°	655.3	623.6	591.8	578.5	565.3	564.5	563.8	573.4	583.0	593.3	603.6
60°	587.4	560.8	534.3	523.9	513.6	515.1	516.6	527.6	538.7	546.8	554.9
62.5°	525.4	503.3	481.1	471.5	461.9	465.6	469.3	480.4	491.5	501.1	510.7
65°	463.4	445.0	426.5	419.9	413.2	418.4	423.6	433.2	442.8	449.4	456.0
67.5°	404.4	388.9	373.4	368.2	363.1	368.2	373.4	383.0	392.6	399.2	405.9
70°	342.4	329.9	317.3	313.6	309.9	315.8	321.7	329.9	338.0	344.6	351.3
72.5°	284.8	275.3	265.7	264.9	264.2	269.3	274.5	282.6	290.7	295.2	299.6
75°	228.8	223.6	218.4	217.7	217.0	222.1	227.3	231.7	236.1	239.8	243.5
77.5°	178.6	174.2	169.7	170.5	171.2	174.9	178.6	183.0	187.4	189.7	191.9
80°	126.9	125.4	124.0	125.4	126.9	129.9	132.8	135.8	138.7	140.2	141.7
82.5°	87.1	85.6	84.1	86.3	88.6	90.8	93.0	95.2	97.4	98.1	98.9
85°	50.2	52.4	54.6	54.6	54.6	55.3	56.1	56.8	57.6	56.8	56.1
87.5°	23.6	24.4	25.1	25.1	25.1	25.8	26.6	26.6	26.6	25.8	25.1
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°	45.5	47.2	49.0	50.7	52.4	54.1	55.0	55.8	56.7	57.6	57.7
95°	84.0	86.2	88.5	90.8	93.1	95.4	96.5	97.6	98.8	99.9	100.5
97.5°	130.7	132.3	134.0	135.7	137.4	139.2	140.6	142.0	143.5	144.9	145.5
100°	182.1	183.7	185.1	186.6	188.0	189.4	190.3	191.1	192.0	192.8	193.6
102.5°	236.7	238.1	240.1	242.1	244.1	246.1	247.0	247.8	248.7	249.5	249.8
105°	292.2	293.8	296.4	298.9	301.5	304.1	304.1	304.1	304.1	304.1	304.4
107.5°	358.1	358.8	359.9	361.1	362.2	363.4	364.2	365.1	365.9	366.8	367.1
110°	421.1	421.6	422.2	422.8	423.4	423.9	425.1	426.2	427.4	428.5	428.8



TEST NUMBER: P831082

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	484.3	484.5	484.5	484.5	484.5	484.5	485.9	487.3	488.8	490.2	490.9
115°	551.1	551.2	550.6	550.1	549.5	548.9	549.2	549.5	549.8	550.1	550.1
117.5°	614.5	614.3	613.8	613.2	612.6	612.1	612.1	612.1	612.1	612.1	611.6
120°	680.8	680.9	679.5	678.1	676.6	675.2	674.9	674.6	674.3	674.0	673.6
122.5°	741.6	741.9	741.3	740.8	740.2	739.6	738.8	737.9	737.0	736.2	735.3
125°	804.9	805.0	804.5	803.9	803.3	802.8	801.6	800.5	799.3	798.2	797.0
127.5°	867.6	868.2	867.6	867.0	866.5	865.9	864.2	862.5	860.7	859.0	857.6
130°	929.2	929.9	929.0	928.2	927.3	926.5	925.3	924.2	923.0	921.9	920.3
132.5°	988.4	989.3	988.7	988.2	987.6	987.0	985.6	984.1	982.7	981.3	979.9
135°	1046.7	1047.4	1047.1	1046.9	1046.6	1046.3	1045.1	1044.0	1042.8	1041.7	1040.8
137.5°	1101.0	1102.1	1103.0	1103.8	1104.7	1105.6	1104.1	1102.7	1101.3	1099.8	1098.7
140°	1159.0	1159.8	1160.1	1160.4	1160.7	1161.0	1160.7	1160.4	1160.1	1159.8	1158.7
142.5°	1211.8	1212.8	1213.4	1213.9	1214.5	1215.1	1214.8	1214.5	1214.2	1213.9	1213.1
145°	1263.8	1264.5	1265.3	1266.2	1267.1	1267.9	1267.6	1267.3	1267.1	1266.8	1266.0
147.5°	1313.7	1314.7	1315.6	1316.4	1317.3	1318.2	1318.2	1318.2	1318.2	1318.2	1317.3
150°	1361.7	1362.3	1362.8	1363.4	1364.0	1364.5	1364.5	1364.5	1364.5	1364.5	1363.7
152.5°	1404.1	1404.6	1404.9	1405.2	1405.5	1405.8	1406.4	1406.9	1407.5	1408.1	1407.6
155°	1444.4	1444.6	1444.9	1445.2	1445.4	1445.7	1446.9	1448.0	1449.2	1450.3	1449.9
157.5°	1480.7	1480.7	1480.9	1481.2	1481.5	1481.8	1483.0	1484.1	1485.2	1486.4	1486.1
160°	1514.3	1514.0	1514.0	1514.0	1514.0	1514.0	1515.5	1516.9	1518.3	1519.7	1519.9
162.5°	1544.1	1543.8	1544.1	1544.4	1544.7	1544.9	1546.4	1547.8	1549.2	1550.7	1550.4
165°	1569.9	1569.4	1569.4	1569.4	1569.4	1569.4	1571.1	1572.9	1574.6	1576.3	1576.2
167.5°	1590.6	1590.2	1590.5	1590.8	1591.0	1591.3	1593.0	1594.8	1596.5	1598.2	1598.2
170°	1608.7	1608.1	1608.1	1608.1	1608.1	1608.1	1610.1	1612.1	1614.1	1616.1	1616.1
172.5°	1622.8	1622.3	1622.3	1622.3	1622.3	1622.3	1624.0	1625.7	1627.4	1629.1	1629.0
175°	1631.8	1631.3	1631.3	1631.3	1631.3	1631.3	1633.0	1634.7	1636.4	1638.1	1638.0
177.5°	1637.0	1636.4	1636.4	1636.4	1636.4	1636.4	1638.1	1639.9	1641.6	1643.3	1643.2
180°	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3



TEST NUMBER: P831082

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	3180.5	3180.5	3180.5	3180.5
2.5°	2827.0	2821.9	2801.2	2780.6
5°	2396.8	2379.1	2373.2	2367.3
7.5°	2094.3	2092.8	2061.8	2030.8
10°	1827.9	1830.1	1802.0	1774.0
12.5°	1637.5	1619.0	1616.8	1614.6
15°	1494.3	1477.4	1474.4	1471.4
17.5°	1393.2	1382.9	1379.9	1377.0
20°	1316.5	1310.6	1305.4	1300.2
22.5°	1250.1	1242.7	1238.3	1233.8
25°	1185.9	1179.2	1177.7	1176.3
27.5°	1128.3	1120.2	1120.2	1120.2
30°	1073.7	1068.5	1066.3	1064.1
32.5°	1022.8	1018.4	1018.4	1018.4
35°	974.8	972.6	969.7	966.7
37.5°	931.3	931.3	929.8	928.3
40°	889.2	891.4	891.4	891.4
42.5°	850.8	853.1	853.1	853.1
45°	811.0	814.7	816.2	817.6
47.5°	771.9	777.8	779.3	780.7
50°	733.5	737.9	738.7	739.4
52.5°	694.4	699.6	703.3	706.9
55°	653.1	658.2	660.5	662.7
57.5°	608.8	614.0	614.7	615.4
60°	560.1	565.3	566.7	568.2
62.5°	513.6	516.6	518.0	519.5
65°	460.5	464.9	467.9	470.8
67.5°	409.6	413.2	413.2	413.2
70°	352.7	354.2	356.4	358.6
72.5°	300.3	301.1	301.1	301.1
75°	245.0	246.5	247.2	247.9
77.5°	192.6	193.3	193.3	193.3
80°	140.9	140.2	140.2	140.2
82.5°	96.7	94.5	94.5	94.5
85°	55.3	54.6	55.3	56.1
87.5°	25.1	25.1	25.1	25.1
90°	36.9	37.5	38.1	38.7
92.5°	57.1	56.6	56.0	55.4
95°	100.5	100.5	100.5	100.5
97.5°	145.2	144.9	144.6	144.3
100°	194.1	194.7	195.3	195.9
102.5°	249.5	249.3	249.0	248.7
105°	305.0	305.5	306.1	306.7
107.5°	366.8	366.5	366.2	365.9
110°	428.2	427.6	427.1	426.5



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	490.9	490.9	490.9	490.9
115°	549.8	549.5	549.2	548.9
117.5°	610.8	609.9	609.0	608.2
120°	673.0	672.5	671.9	671.3
122.5°	734.5	733.6	732.7	731.9
125°	795.9	794.7	793.6	792.4
127.5°	856.4	855.3	854.1	853.0
130°	918.3	916.3	914.3	912.3
132.5°	978.4	977.0	975.6	974.1
135°	1040.3	1039.7	1039.1	1038.6
137.5°	1097.8	1097.0	1096.1	1095.2
140°	1156.7	1154.7	1152.7	1150.7
142.5°	1211.6	1210.2	1208.8	1207.3
145°	1264.9	1263.8	1262.6	1261.5
147.5°	1315.6	1313.9	1312.1	1310.4
150°	1362.0	1360.3	1358.5	1356.8
152.5°	1406.2	1404.8	1403.3	1401.9
155°	1447.9	1445.9	1443.9	1441.9
157.5°	1484.4	1482.7	1480.9	1479.2
160°	1518.7	1517.6	1516.5	1515.3
162.5°	1548.4	1546.4	1544.4	1542.4
165°	1574.2	1572.1	1570.1	1568.1
167.5°	1596.5	1594.8	1593.0	1591.3
170°	1614.1	1612.1	1610.1	1608.1
172.5°	1627.0	1625.0	1623.0	1621.0
175°	1636.0	1634.0	1632.0	1630.0
177.5°	1641.2	1639.1	1637.1	1635.1
180°	1640.3	1640.3	1640.3	1640.3



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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	16.12	16.97	17.05	17.92	19.15	18.35	19.20	19.29	20.15	21.38
	3H	17.76	18.52	18.71	19.48	20.74	19.78	20.54	20.73	21.50	22.75
	4H	18.34	19.06	19.30	20.02	21.29	20.23	20.95	21.19	21.91	23.17
	6H	18.71	19.37	19.68	20.34	21.62	20.50	21.16	21.48	22.13	23.41
	8H	18.81	19.44	19.79	20.42	21.69	20.56	21.19	21.55	22.18	23.45
	12H	18.85	19.45	19.84	20.43	21.73	20.58	21.18	21.57	22.16	23.46
4H	2H	16.69	17.41	17.66	18.37	19.64	18.51	19.23	19.49	20.20	21.46
	3H	18.52	19.12	19.50	20.11	21.39	20.13	20.73	21.11	21.73	23.00
	4H	19.22	19.76	20.20	20.75	22.05	20.72	21.26	21.70	22.25	23.55
	6H	19.69	20.16	20.69	21.17	22.47	21.12	21.59	22.12	22.60	23.90
	8H	19.83	20.27	20.83	21.27	22.58	21.23	21.67	22.23	22.67	23.99
	12H	19.89	20.29	20.91	21.31	22.63	21.28	21.67	22.30	22.69	24.01
8H	4H	19.48	19.92	20.48	20.92	22.24	20.82	21.26	21.82	22.26	23.58
	6H	20.07	20.43	21.09	21.48	22.79	21.32	21.69	22.35	22.73	24.04
	8H	20.28	20.60	21.31	21.63	22.96	21.50	21.82	22.54	22.85	24.18
	12H	20.40	20.68	21.44	21.71	23.08	21.60	21.88	22.64	22.91	24.29
12H	4H	19.48	19.88	20.50	20.90	22.22	20.80	21.19	21.81	22.21	23.53
	6H	20.12	20.44	21.15	21.47	22.80	21.34	21.66	22.37	22.69	24.02
	8H	20.35	20.63	21.39	21.66	23.04	21.54	21.82	22.57	22.84	24.22