

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: P831055

Luminaire Tested: S123DIP-S1000D1025U850-4F0-1E-UDD-G1

Issue Date: 05/03/2024

Test Information

Test Method: LM-79-2019
Report Number: P831055
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-S1000D1025U850-4F0-1E-UDD-G1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: -

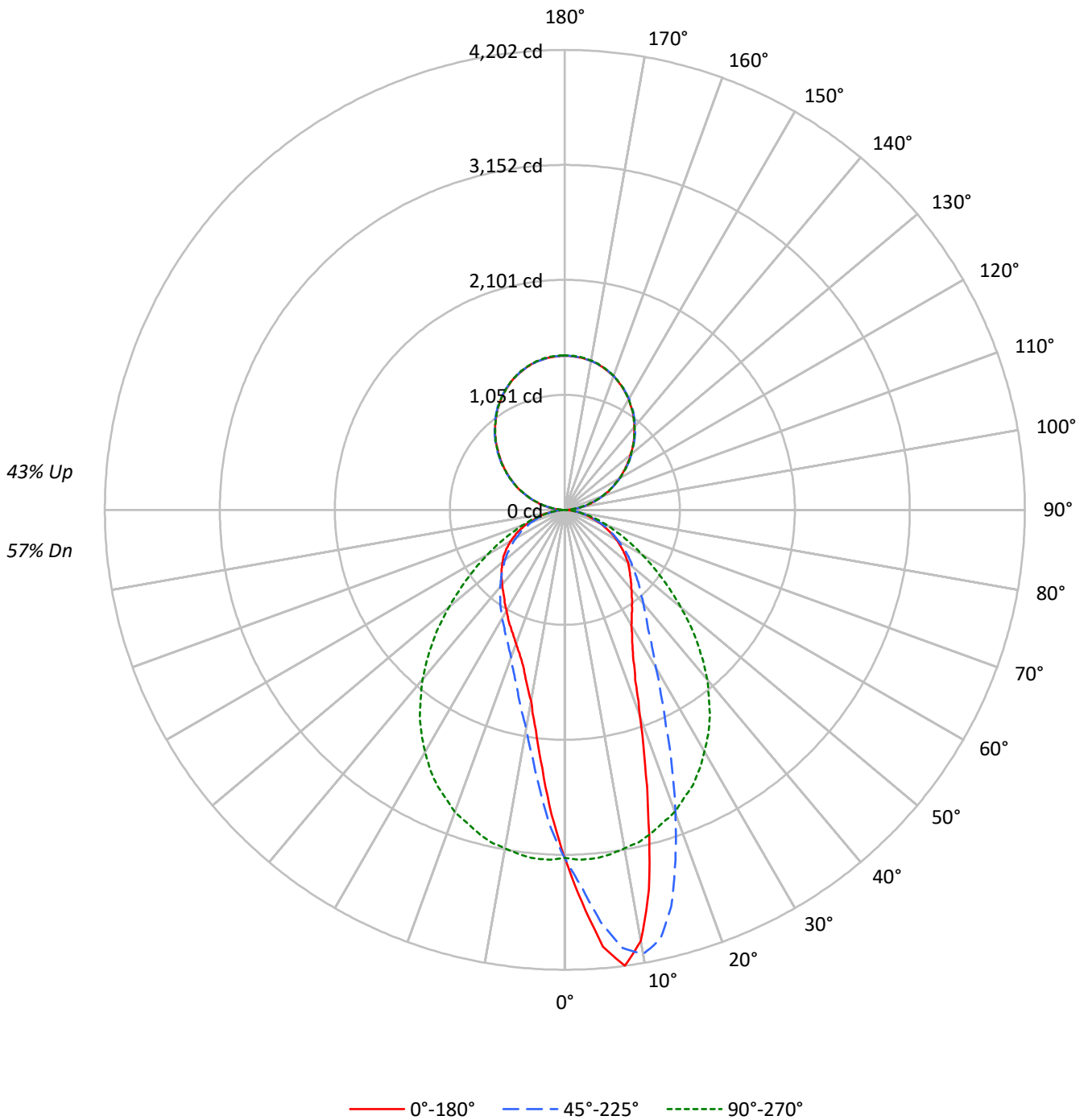
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9020.4 lumens
Efficiency: N/A
Efficacy: 147.9 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): 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										
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	50	30	10	0		
RCR	0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	62	57						
	1	100	96	92	89	93	89	86	83	77	75	73	66	64	63	56	55	54	54	49						
	2	91	84	78	73	85	79	74	69	68	65	61	59	56	54	50	48	46	46	42						
	3	84	75	68	62	78	70	64	59	61	56	52	53	49	46	45	42	40	40	36						
	4	77	67	59	53	72	63	56	51	55	50	45	47	43	40	41	38	35	35	32						
	5	71	60	52	46	66	56	49	44	49	44	40	43	39	35	37	34	31	31	28						
	6	66	54	46	41	61	51	44	39	45	39	35	39	35	32	34	31	28	28	25						
	7	61	49	42	36	57	46	40	35	41	36	31	36	32	28	31	28	25	25	23						
	8	57	45	38	32	53	43	36	31	38	32	28	33	29	26	29	26	23	23	21						
	9	53	41	34	29	50	39	33	28	35	30	26	31	27	23	27	24	21	21	19						
	10	50	38	31	27	47	36	30	26	32	27	23	29	25	21	25	22	19	19	18						

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	3.3
10°-20°	748.0	8.3
20°-30°	885.7	9.8
30°-40°	890.6	9.9
40°-50°	817.1	9.1
50°-60°	674.4	7.5
60°-70°	477.1	5.3
70°-80°	254.6	2.8
80°-90°	67.6	0.7
90°-100°	90.7	1.0
100°-110°	274.6	3.0
110°-120°	467.4	5.2
120°-130°	614.9	6.8
130°-140°	691.2	7.7
140°-150°	679.5	7.5
150°-160°	572.1	6.3
160°-170°	380.9	4.2
170°-180°	133.4	1.5
0°-30°	1934.4	21.4
0°-40°	2825.0	31.3
0°-60°	4316.4	47.9
0°-90°	5115.7	56.7
90°-120°	832.7	9.2
90°-150°	2818.3	31.2
90°-180°	3905.0	43.3
0°-180°	9020.4	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°	33	27	1	27	33	19
95°	86	82	65	82	86	87
105°	264	261	249	261	264	279
115°	472	472	470	472	472	467
125°	681	690	689	690	681	609
135°	892	899	893	899	892	686
145°	1084	1089	1084	1089	1084	677
155°	1239	1242	1241	1242	1239	571
165°	1347	1348	1352	1348	1347	380
175°	1400	1402	1406	1402	1400	133
180°	1409	1409	1409	1409	1409	



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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°	33.2	32.7	32.2	31.7	31.2	30.5	29.5	28.5	27.6	26.6	23.4
92.5°	47.6	48.1	48.6	49.1	49.6	49.4	48.7	48.0	47.2	46.5	45.0
95°	86.3	86.3	86.3	86.3	86.3	85.9	84.9	83.9	82.9	81.9	80.0
97.5°	124.0	124.2	124.5	124.7	125.0	124.5	123.2	122.0	120.8	119.6	118.1
100°	168.3	167.8	167.3	166.8	166.3	165.7	164.9	164.2	163.5	162.7	161.5
102.5°	213.7	213.9	214.1	214.4	214.6	214.4	213.7	212.9	212.2	211.4	209.7
105°	263.5	263.0	262.5	262.0	261.5	261.3	261.3	261.3	261.3	261.3	259.0
107.5°	314.4	314.6	314.9	315.1	315.4	315.1	314.4	313.7	312.9	312.2	311.2
110°	366.4	366.9	367.4	367.9	368.4	368.1	367.2	366.2	365.2	364.2	363.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.8	421.8	421.8	421.8	421.8	421.2	419.9	418.7	417.5	416.2	416.2
115°	471.6	471.8	472.1	472.3	472.6	472.6	472.3	472.1	471.8	471.6	472.1
117.5°	522.5	523.2	524.0	524.7	525.5	525.8	525.8	525.8	525.8	525.8	526.3
120°	576.8	577.2	577.7	578.2	578.7	579.1	579.3	579.6	579.8	580.1	581.3
122.5°	628.8	629.5	630.3	631.0	631.7	632.5	633.2	633.9	634.7	635.4	635.9
125°	680.8	681.8	682.8	683.8	684.7	685.7	686.7	687.7	688.7	689.7	690.2
127.5°	732.8	733.8	734.8	735.8	736.8	738.0	739.5	741.0	742.4	743.9	744.4
130°	783.8	785.5	787.2	788.9	790.7	792.0	793.0	794.0	795.0	795.9	796.7
132.5°	836.9	838.1	839.4	840.6	841.8	843.1	844.3	845.5	846.7	848.0	848.5
135°	892.3	892.7	893.2	893.7	894.2	895.0	895.9	896.9	897.9	898.9	899.1
137.5°	941.0	941.7	942.4	943.2	943.9	944.9	946.1	947.4	948.6	949.8	949.1
140°	988.6	990.3	992.0	993.7	995.5	996.4	996.7	996.9	997.2	997.4	997.2
142.5°	1037.3	1038.5	1039.7	1041.0	1042.2	1042.9	1043.2	1043.4	1043.7	1043.9	1043.4
145°	1083.8	1084.7	1085.7	1086.7	1087.7	1088.3	1088.6	1088.8	1089.1	1089.3	1088.6
147.5°	1125.8	1127.3	1128.8	1130.3	1131.7	1132.5	1132.5	1132.5	1132.5	1132.5	1131.7
150°	1165.7	1167.2	1168.6	1170.1	1171.6	1172.3	1172.3	1172.3	1172.3	1172.3	1171.8
152.5°	1204.4	1205.7	1206.9	1208.1	1209.4	1209.7	1209.2	1208.7	1208.2	1207.8	1207.5
155°	1238.7	1240.5	1242.2	1243.9	1245.6	1246.0	1245.0	1244.0	1243.1	1242.1	1241.8
157.5°	1270.9	1272.3	1273.8	1275.3	1276.8	1277.0	1276.0	1275.0	1274.0	1273.1	1272.8
160°	1301.8	1302.8	1303.8	1304.8	1305.8	1305.7	1304.4	1303.2	1302.0	1300.7	1300.7
162.5°	1325.1	1326.8	1328.5	1330.3	1332.0	1332.2	1331.0	1329.8	1328.5	1327.3	1327.1
165°	1347.2	1349.0	1350.7	1352.4	1354.1	1354.2	1352.8	1351.3	1349.8	1348.3	1348.3
167.5°	1367.2	1368.6	1370.1	1371.6	1373.1	1373.1	1371.6	1370.1	1368.6	1367.2	1366.9
170°	1381.6	1383.3	1385.0	1386.7	1388.4	1388.4	1386.7	1385.0	1383.3	1381.6	1381.6
172.5°	1392.6	1394.3	1396.1	1397.8	1399.5	1399.6	1398.2	1396.7	1395.2	1393.7	1393.7
175°	1400.4	1402.1	1403.8	1405.5	1407.3	1407.4	1405.9	1404.4	1403.0	1401.5	1401.5
177.5°	1404.8	1406.5	1408.2	1410.0	1411.7	1411.8	1410.3	1408.9	1407.4	1405.9	1405.9
180°	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2



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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°	20.2	17.0	13.8	10.9	8.5	6.0	3.6	1.1	3.6	6.0	8.5
92.5°	43.5	42.1	40.6	39.1	37.6	36.2	34.7	33.2	34.7	36.2	37.6
95°	78.0	76.0	74.0	72.2	70.5	68.8	67.0	65.3	67.0	68.8	70.5
97.5°	116.6	115.1	113.7	112.3	111.1	109.8	108.6	107.4	108.6	109.8	111.1
100°	160.3	159.0	157.8	156.5	155.0	153.5	152.0	150.6	152.0	153.5	155.0
102.5°	208.0	206.3	204.6	203.3	202.6	201.8	201.1	200.4	201.1	201.8	202.6
105°	256.8	254.6	252.4	251.0	250.6	250.1	249.6	249.1	249.6	250.1	250.6
107.5°	310.2	309.2	308.2	307.6	307.4	307.1	306.9	306.6	306.9	307.1	307.4
110°	363.2	362.7	362.2	361.7	361.3	360.8	360.3	359.8	360.3	360.8	361.3



TEST NUMBER: P831055

CATALOG NUMBER: S123DIP-S1000D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	416.2	416.2	416.2	416.1	415.9	415.6	415.4	415.1	415.4	415.6	415.9
115°	472.6	473.1	473.6	473.4	472.7	472.0	471.2	470.5	471.2	472.0	472.7
117.5°	526.8	527.3	527.8	527.9	527.7	527.4	527.2	526.9	527.2	527.4	527.7
120°	582.5	583.8	585.0	584.9	583.4	581.9	580.4	579.0	580.4	581.9	583.4
122.5°	636.4	636.9	637.4	637.1	636.2	635.2	634.2	633.2	634.2	635.2	636.2
125°	690.7	691.1	691.6	691.5	690.8	690.0	689.3	688.6	689.3	690.0	690.8
127.5°	744.9	745.4	745.9	745.4	743.9	742.4	741.0	739.5	741.0	742.4	743.9
130°	797.4	798.2	798.9	798.3	796.3	794.3	792.4	790.4	792.4	794.3	796.3
132.5°	849.0	849.4	849.9	849.2	847.2	845.3	843.3	841.3	843.3	845.3	847.2
135°	899.4	899.6	899.9	899.3	897.8	896.3	894.8	893.4	894.8	896.3	897.8
137.5°	948.3	947.6	946.9	945.9	944.7	943.4	942.2	941.0	942.2	943.4	944.7
140°	996.9	996.7	996.4	995.7	994.5	993.2	992.0	990.8	992.0	993.2	994.5
142.5°	1042.9	1042.4	1041.9	1041.1	1039.9	1038.6	1037.4	1036.2	1037.4	1038.6	1039.9
145°	1087.8	1087.1	1086.3	1085.7	1085.2	1084.7	1084.3	1083.8	1084.3	1084.7	1085.2
147.5°	1131.0	1130.3	1129.5	1128.7	1127.7	1126.7	1125.7	1124.7	1125.7	1126.7	1127.7
150°	1171.3	1170.9	1170.4	1169.9	1169.4	1168.9	1168.4	1167.9	1168.4	1168.9	1169.4
152.5°	1207.3	1207.0	1206.8	1206.3	1205.5	1204.8	1204.1	1203.3	1204.1	1204.8	1205.5
155°	1241.6	1241.3	1241.1	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0	1241.0
157.5°	1272.6	1272.3	1272.1	1272.1	1272.3	1272.6	1272.8	1273.1	1272.8	1272.6	1272.3
160°	1300.7	1300.7	1300.7	1301.0	1301.5	1302.0	1302.5	1303.0	1302.5	1302.0	1301.5
162.5°	1326.8	1326.6	1326.3	1326.6	1327.3	1328.0	1328.8	1329.5	1328.8	1328.0	1327.3
165°	1348.3	1348.3	1348.3	1348.7	1349.4	1350.2	1350.9	1351.7	1350.9	1350.2	1349.4
167.5°	1366.7	1366.4	1366.2	1366.5	1367.5	1368.5	1369.5	1370.5	1369.5	1368.5	1367.5
170°	1381.6	1381.6	1381.6	1382.0	1383.0	1384.0	1385.0	1386.0	1385.0	1384.0	1383.0
172.5°	1393.7	1393.7	1393.7	1394.2	1395.2	1396.2	1397.2	1398.2	1397.2	1396.2	1395.2
175°	1401.5	1401.5	1401.5	1402.0	1403.0	1403.9	1404.9	1405.9	1404.9	1403.9	1403.0
177.5°	1405.9	1405.9	1405.9	1406.4	1407.4	1408.4	1409.4	1410.3	1409.4	1408.4	1407.4
180°	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2



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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°	10.9	13.8	17.0	20.2	23.4	26.6	27.6	28.5	29.5	30.5	31.2
92.5°	39.1	40.6	42.1	43.5	45.0	46.5	47.2	48.0	48.7	49.4	49.6
95°	72.2	74.0	76.0	78.0	80.0	81.9	82.9	83.9	84.9	85.9	86.3
97.5°	112.3	113.7	115.1	116.6	118.1	119.6	120.8	122.0	123.2	124.5	125.0
100°	156.5	157.8	159.0	160.3	161.5	162.7	163.5	164.2	164.9	165.7	166.3
102.5°	203.3	204.6	206.3	208.0	209.7	211.4	212.2	212.9	213.7	214.4	214.6
105°	251.0	252.4	254.6	256.8	259.0	261.3	261.3	261.3	261.3	261.3	261.5
107.5°	307.6	308.2	309.2	310.2	311.2	312.2	312.9	313.7	314.4	315.1	315.4
110°	361.7	362.2	362.7	363.2	363.7	364.2	365.2	366.2	367.2	368.1	368.4



TEST NUMBER: P831055

CATALOG NUMBER: S123DIP-S1000D1025U850-4F0-1E-UDD-G1

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	416.1	416.2	416.2	416.2	416.2	416.2	417.5	418.7	419.9	421.2	421.8
115°	473.4	473.6	473.1	472.6	472.1	471.6	471.8	472.1	472.3	472.6	472.6
117.5°	527.9	527.8	527.3	526.8	526.3	525.8	525.8	525.8	525.8	525.8	525.5
120°	584.9	585.0	583.8	582.5	581.3	580.1	579.8	579.6	579.3	579.1	578.7
122.5°	637.1	637.4	636.9	636.4	635.9	635.4	634.7	633.9	633.2	632.5	631.7
125°	691.5	691.6	691.1	690.7	690.2	689.7	688.7	687.7	686.7	685.7	684.7
127.5°	745.4	745.9	745.4	744.9	744.4	743.9	742.4	741.0	739.5	738.0	736.8
130°	798.3	798.9	798.2	797.4	796.7	795.9	795.0	794.0	793.0	792.0	790.7
132.5°	849.2	849.9	849.4	849.0	848.5	848.0	846.7	845.5	844.3	843.1	841.8
135°	899.3	899.9	899.6	899.4	899.1	898.9	897.9	896.9	895.9	895.0	894.2
137.5°	945.9	946.9	947.6	948.3	949.1	949.8	948.6	947.4	946.1	944.9	943.9
140°	995.7	996.4	996.7	996.9	997.2	997.4	997.2	996.9	996.7	996.4	995.5
142.5°	1041.1	1041.9	1042.4	1042.9	1043.4	1043.9	1043.7	1043.4	1043.2	1042.9	1042.2
145°	1085.7	1086.3	1087.1	1087.8	1088.6	1089.3	1089.1	1088.8	1088.6	1088.3	1087.7
147.5°	1128.7	1129.5	1130.3	1131.0	1131.7	1132.5	1132.5	1132.5	1132.5	1132.5	1131.7
150°	1169.9	1170.4	1170.9	1171.3	1171.8	1172.3	1172.3	1172.3	1172.3	1172.3	1171.6
152.5°	1206.3	1206.8	1207.0	1207.3	1207.5	1207.8	1208.2	1208.7	1209.2	1209.7	1209.4
155°	1241.0	1241.1	1241.3	1241.6	1241.8	1242.1	1243.1	1244.0	1245.0	1246.0	1245.6
157.5°	1272.1	1272.1	1272.3	1272.6	1272.8	1273.1	1274.0	1275.0	1276.0	1277.0	1276.8
160°	1301.0	1300.7	1300.7	1300.7	1300.7	1300.7	1302.0	1303.2	1304.4	1305.7	1305.8
162.5°	1326.6	1326.3	1326.6	1326.8	1327.1	1327.3	1328.5	1329.8	1331.0	1332.2	1332.0
165°	1348.7	1348.3	1348.3	1348.3	1348.3	1348.3	1349.8	1351.3	1352.8	1354.2	1354.1
167.5°	1366.5	1366.2	1366.4	1366.7	1366.9	1367.2	1368.6	1370.1	1371.6	1373.1	1373.1
170°	1382.0	1381.6	1381.6	1381.6	1381.6	1381.6	1383.3	1385.0	1386.7	1388.4	1388.4
172.5°	1394.2	1393.7	1393.7	1393.7	1393.7	1393.7	1395.2	1396.7	1398.2	1399.6	1399.5
175°	1402.0	1401.5	1401.5	1401.5	1401.5	1401.5	1403.0	1404.4	1405.9	1407.4	1407.3
177.5°	1406.4	1405.9	1405.9	1405.9	1405.9	1405.9	1407.4	1408.9	1410.3	1411.8	1411.7
180°	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2	1409.2



TEST NUMBER: P831055

CATALOG NUMBER: S123DIP-S1000D1025U850-4F0-1E-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°	31.7	32.2	32.7	33.2
92.5°	49.1	48.6	48.1	47.6
95°	86.3	86.3	86.3	86.3
97.5°	124.7	124.5	124.2	124.0
100°	166.8	167.3	167.8	168.3
102.5°	214.4	214.1	213.9	213.7
105°	262.0	262.5	263.0	263.5
107.5°	315.1	314.9	314.6	314.4
110°	367.9	367.4	366.9	366.4



TEST NUMBER: P831055

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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
112.5°	421.8	421.8	421.8	421.8
115°	472.3	472.1	471.8	471.6
117.5°	524.7	524.0	523.2	522.5
120°	578.2	577.7	577.2	576.8
122.5°	631.0	630.3	629.5	628.8
125°	683.8	682.8	681.8	680.8
127.5°	735.8	734.8	733.8	732.8
130°	788.9	787.2	785.5	783.8
132.5°	840.6	839.4	838.1	836.9
135°	893.7	893.2	892.7	892.3
137.5°	943.2	942.4	941.7	941.0
140°	993.7	992.0	990.3	988.6
142.5°	1041.0	1039.7	1038.5	1037.3
145°	1086.7	1085.7	1084.7	1083.8
147.5°	1130.3	1128.8	1127.3	1125.8
150°	1170.1	1168.6	1167.2	1165.7
152.5°	1208.1	1206.9	1205.7	1204.4
155°	1243.9	1242.2	1240.5	1238.7
157.5°	1275.3	1273.8	1272.3	1270.9
160°	1304.8	1303.8	1302.8	1301.8
162.5°	1330.3	1328.5	1326.8	1325.1
165°	1352.4	1350.7	1349.0	1347.2
167.5°	1371.6	1370.1	1368.6	1367.2
170°	1386.7	1385.0	1383.3	1381.6
172.5°	1397.8	1396.1	1394.3	1392.6
175°	1405.5	1403.8	1402.1	1400.4
177.5°	1410.0	1408.2	1406.5	1404.8
180°	1409.2	1409.2	1409.2	1409.2



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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	16.45	17.33	17.35	18.25	19.43	18.69	19.57	19.59	20.49	21.66
	3H	18.10	18.89	19.02	19.82	21.02	20.11	20.90	21.03	21.83	23.03
	4H	18.68	19.42	19.61	20.36	21.57	20.56	21.31	21.50	22.24	23.45
	6H	19.05	19.74	19.99	20.67	21.90	20.84	21.53	21.78	22.47	23.69
	8H	19.15	19.80	20.10	20.76	21.98	20.90	21.56	21.85	22.51	23.73
	12H	19.19	19.81	20.15	20.76	22.01	20.92	21.55	21.88	22.50	23.74
4H	2H	17.03	17.77	17.96	18.71	19.92	18.85	19.60	19.79	20.53	21.74
	3H	18.86	19.48	19.80	20.44	21.67	20.47	21.09	21.42	22.06	23.28
	4H	19.56	20.12	20.51	21.08	22.33	21.06	21.62	22.01	22.58	23.83
	6H	20.03	20.52	21.00	21.50	22.75	21.46	21.95	22.43	22.93	24.18
	8H	20.17	20.63	21.14	21.60	22.86	21.58	22.03	22.55	23.01	24.27
	12H	20.24	20.65	21.23	21.64	22.91	21.62	22.03	22.61	23.02	24.29
8H	4H	19.82	20.28	20.80	21.26	22.52	21.16	21.62	22.14	22.60	23.86
	6H	20.41	20.79	21.41	21.81	23.07	21.67	22.04	22.66	23.06	24.32
	8H	20.62	20.95	21.63	21.96	23.24	21.85	22.18	22.85	23.18	24.46
	12H	20.75	21.04	21.75	22.04	23.36	21.95	22.24	22.96	23.24	24.57
12H	4H	19.83	20.24	20.82	21.23	22.50	21.14	21.55	22.13	22.54	23.81
	6H	20.46	20.80	21.47	21.80	23.08	21.68	22.01	22.69	23.02	24.30
	8H	20.70	20.99	21.71	21.99	23.32	21.88	22.17	22.89	23.17	24.50