

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: P831083

Luminaire Tested: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

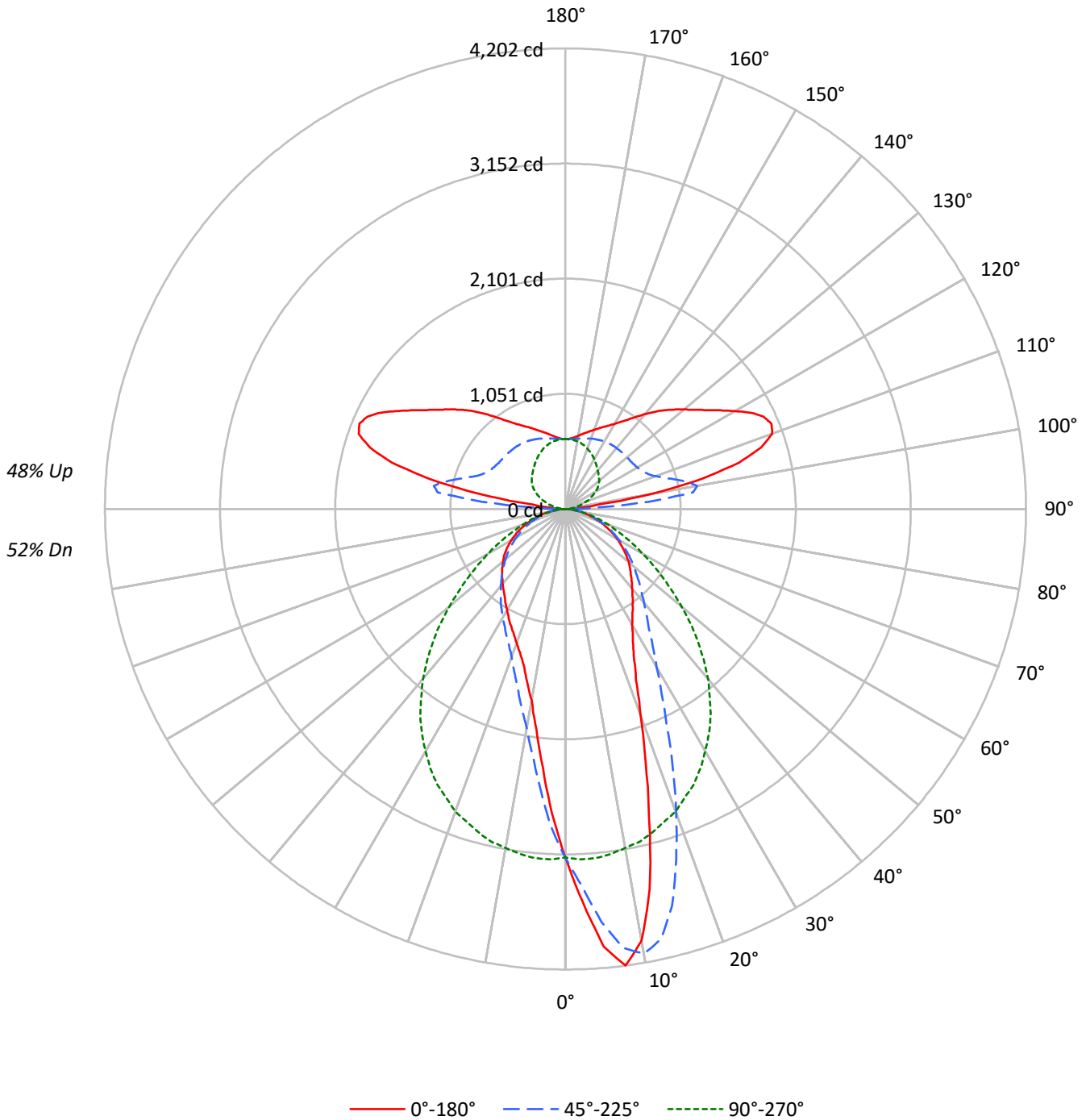
Test Method: LM-79-2019  
Report Number: P831083  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D1195U850-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9904.2 lumens  
Efficiency: N/A  
Efficacy: 149.8 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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CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

### Luminous Intensity Polar Plot





TEST NUMBER: P831083

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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	99	99	99	99	84	84	84	70	70	70	58	58	58	52				52
1	99	95	91	87	91	88	84	82	75	72	70	63	61	60	52	51	50	45				45
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43	38				38
3	83	74	67	61	76	69	62	57	59	54	50	50	47	44	42	39	37	33				33
4	76	66	58	52	70	61	55	49	53	48	44	45	41	38	38	35	33	29				29
5	70	59	51	45	65	55	48	43	48	42	38	41	37	33	34	31	29	26				26
6	65	53	45	40	60	50	43	38	43	38	34	37	33	30	31	28	26	23				23
7	60	48	41	35	56	45	38	34	40	34	30	34	30	27	29	26	23	21				21
8	56	44	37	32	52	42	35	30	36	31	27	31	27	24	27	24	21	19				19
9	52	41	33	28	49	38	32	27	34	28	25	29	25	22	25	22	19	17				17
10	49	37	30	26	46	35	29	25	31	26	22	27	23	20	23	20	18	16				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	3.0
10°-20°	748.0	7.6
20°-30°	885.7	8.9
30°-40°	890.6	9.0
40°-50°	817.1	8.2
50°-60°	674.4	6.8
60°-70°	477.1	4.8
70°-80°	254.6	2.6
80°-90°	68.1	0.7
90°-100°	345.4	3.5
100°-110°	1011.2	10.2
110°-120°	987.5	10.0
120°-130°	786.4	7.9
130°-140°	620.5	6.3
140°-150°	462.9	4.7
150°-160°	322.7	3.3
160°-170°	189.6	1.9
170°-180°	61.7	0.6
0°-30°	1934.4	19.5
0°-40°	2825.0	28.5
0°-60°	4316.4	43.6
0°-90°	5116.3	51.7
90°-120°	2344.1	23.7
90°-150°	4213.9	42.5
90°-180°	4788.0	48.3
0°-180°	9904.2	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°	37	32	3	32	37	23
95°	150	764	44	764	150	243
105°	1639	1036	150	1036	1639	1635
115°	1993	792	264	792	1993	1944
125°	1572	740	367	740	1572	1423
135°	1274	729	430	729	1274	988
145°	996	720	491	720	996	632
155°	826	697	558	697	826	385
165°	720	667	610	667	720	206
175°	648	640	635	640	648	63
180°	636	636	636	636	636	



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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°	37.4	38.7	37.4	36.1	37.4	34.8	33.5	32.2	30.9	32.2	28.3
92.5°	68.3	70.9	69.6	74.7	77.3	86.3	99.2	127.6	179.1	239.7	265.4
95°	149.5	154.6	163.6	175.2	199.7	246.1	314.4	463.9	619.8	764.1	680.3
97.5°	306.7	320.8	351.8	400.7	487.0	633.9	804.0	1065.6	1215.0	1175.1	877.5
100°	807.9	806.6	856.8	950.9	1081.0	1264.0	1414.8	1519.1	1474.0	1220.2	824.6
102.5°	1279.5	1316.8	1356.8	1426.4	1520.4	1619.6	1691.8	1669.9	1486.9	1136.4	747.3
105°	1639.0	1645.4	1686.6	1735.6	1794.9	1828.4	1803.9	1675.0	1405.7	1035.9	686.8
107.5°	1873.5	1887.6	1904.4	1927.6	1935.3	1900.5	1800.0	1597.7	1289.8	947.0	643.0
110°	2007.5	2010.0	2012.6	2002.3	1966.2	1876.0	1713.7	1476.6	1181.5	873.6	619.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	2034.5	2033.2	2020.4	1983.0	1909.5	1787.1	1600.3	1356.8	1087.5	824.6	606.9
115°	1993.3	1986.9	1961.1	1904.4	1807.8	1667.3	1477.9	1253.7	1015.3	792.4	605.6
117.5°	1903.1	1894.1	1855.4	1792.3	1691.8	1546.2	1372.2	1173.8	967.7	770.5	606.9
120°	1784.6	1776.8	1745.9	1673.7	1572.0	1441.8	1287.2	1113.3	931.6	756.3	612.0
122.5°	1673.7	1663.4	1628.7	1565.5	1477.9	1359.4	1218.9	1065.6	901.9	747.3	621.1
125°	1572.0	1562.9	1530.7	1474.0	1391.6	1288.5	1164.8	1024.3	877.5	739.6	630.1
127.5°	1484.3	1476.6	1447.0	1398.0	1323.3	1227.9	1114.5	987.0	854.3	735.7	640.4
130°	1412.2	1401.9	1374.8	1328.4	1260.1	1172.5	1068.2	952.2	836.2	731.9	650.7
132.5°	1341.3	1334.9	1311.7	1265.3	1202.2	1119.7	1024.3	920.0	819.5	730.6	658.4
135°	1274.3	1265.3	1242.1	1203.4	1140.3	1066.9	983.1	891.6	805.3	729.3	666.1
137.5°	1203.4	1195.7	1176.4	1136.4	1082.3	1016.6	941.9	864.6	792.4	726.7	671.3
140°	1128.7	1130.0	1109.4	1073.3	1024.3	968.9	907.1	841.4	780.8	725.4	676.5
142.5°	1059.1	1060.4	1042.4	1011.5	971.5	925.1	873.6	819.5	770.5	722.8	680.3
145°	996.0	993.4	983.1	956.1	923.8	886.5	845.2	802.7	761.5	720.3	681.6
147.5°	941.9	940.6	930.3	911.0	885.2	858.1	823.3	788.6	752.5	716.4	681.6
150°	895.5	895.5	887.8	873.6	854.3	829.8	802.7	773.1	743.5	711.2	681.6
152.5°	856.8	856.8	853.0	840.1	825.9	806.6	783.4	758.9	733.2	704.8	677.7
155°	825.9	824.6	822.1	811.7	800.2	784.7	765.4	744.7	722.8	697.1	675.2
157.5°	796.3	796.3	793.7	786.0	775.7	762.8	747.3	729.3	711.2	690.6	671.3
160°	767.9	769.2	769.2	761.5	752.5	743.5	730.6	716.4	699.6	682.9	668.7
162.5°	742.2	743.5	743.5	737.0	731.9	724.1	712.5	700.9	688.1	675.2	663.6
165°	720.3	720.3	721.6	716.4	711.2	704.8	695.8	688.1	677.7	667.4	658.4
167.5°	698.4	698.4	699.6	695.8	693.2	688.1	682.9	676.5	667.4	659.7	653.3
170°	679.0	679.0	680.3	677.7	676.5	673.9	668.7	664.9	658.4	652.0	648.1
172.5°	661.0	662.3	664.9	662.3	662.3	661.0	657.1	654.6	649.4	645.5	644.2
175°	648.1	649.4	650.7	649.4	649.4	649.4	646.8	645.5	643.0	640.4	640.4
177.5°	639.1	639.1	641.7	640.4	641.7	641.7	640.4	639.1	637.8	636.5	637.8
180°	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5



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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°	24.5	20.6	16.8	14.2	11.6	7.7	5.2	2.6	5.2	7.7	11.6
92.5°	198.4	130.1	88.9	65.7	52.8	41.2	28.3	19.3	28.3	41.2	52.8
95°	469.0	277.0	167.5	117.3	83.8	61.8	47.7	43.8	47.7	61.8	83.8
97.5°	521.8	298.9	190.7	135.3	101.8	82.5	70.9	69.6	70.9	82.5	101.8
100°	485.8	295.1	204.9	154.6	123.7	105.7	96.6	95.3	96.6	105.7	123.7
102.5°	454.8	300.2	221.6	176.5	149.5	132.7	125.0	122.4	125.0	132.7	149.5
105°	443.2	310.5	240.9	201.0	176.5	161.1	153.3	149.5	153.3	161.1	176.5
107.5°	440.7	327.3	265.4	228.1	204.9	189.4	181.7	177.8	181.7	189.4	204.9
110°	447.1	349.2	291.2	255.1	233.2	219.0	212.6	208.7	212.6	219.0	233.2





TEST NUMBER: P831083

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	460.0	371.1	318.3	283.5	261.6	247.4	240.9	237.1	240.9	247.4	261.6
115°	474.2	395.6	346.6	311.8	289.9	277.0	269.3	264.1	269.3	277.0	289.9
117.5°	492.2	421.3	372.4	340.2	315.7	304.1	297.6	291.2	297.6	304.1	315.7
120°	512.8	445.8	399.4	367.2	342.7	329.9	323.4	319.5	323.4	329.9	342.7
122.5°	532.1	471.6	426.5	391.7	368.5	354.3	347.9	344.0	347.9	354.3	368.5
125°	552.8	496.1	451.0	416.2	391.7	377.5	369.8	367.2	369.8	377.5	391.7
127.5°	569.5	518.0	474.2	439.4	412.3	398.1	389.1	385.3	389.1	398.1	412.3
130°	586.3	537.3	494.8	460.0	432.9	417.5	405.9	402.0	405.9	417.5	432.9
132.5°	601.7	554.1	512.8	479.3	452.3	432.9	420.0	414.9	420.0	432.9	452.3
135°	614.6	570.8	530.9	496.1	469.0	449.7	435.5	430.4	435.5	449.7	469.0
137.5°	624.9	582.4	543.7	511.5	484.5	463.9	449.7	444.5	449.7	463.9	484.5
140°	632.6	594.0	556.6	524.4	498.6	478.0	465.1	458.7	465.1	478.0	498.6
142.5°	640.4	603.0	566.9	537.3	511.5	493.5	479.3	474.2	479.3	493.5	511.5
145°	645.5	610.7	577.2	547.6	525.7	506.4	494.8	490.9	494.8	506.4	525.7
147.5°	649.4	617.2	586.3	560.5	538.6	521.8	510.2	507.7	510.2	521.8	538.6
150°	650.7	623.6	594.0	570.8	552.8	536.0	525.7	524.4	525.7	536.0	552.8
152.5°	653.3	627.5	603.0	581.1	565.6	551.5	541.2	541.2	541.2	551.5	565.6
155°	653.3	632.6	610.7	592.7	578.5	565.6	557.9	557.9	557.9	565.6	578.5
157.5°	654.6	635.2	617.2	603.0	590.1	578.5	572.1	570.8	572.1	578.5	590.1
160°	654.6	639.1	623.6	610.7	601.7	591.4	586.3	586.3	586.3	591.4	601.7
162.5°	653.3	640.4	627.5	617.2	609.5	601.7	597.9	597.9	597.9	601.7	609.5
165°	650.7	641.7	631.4	622.3	617.2	610.7	608.2	609.5	608.2	610.7	617.2
167.5°	649.4	641.7	633.9	627.5	623.6	618.5	617.2	618.5	617.2	618.5	623.6
170°	645.5	640.4	633.9	631.4	628.8	624.9	623.6	626.2	623.6	624.9	628.8
172.5°	644.2	640.4	635.2	633.9	632.6	630.1	630.1	631.4	630.1	630.1	632.6
175°	641.7	639.1	636.5	635.2	635.2	632.6	633.9	635.2	633.9	632.6	635.2
177.5°	640.4	637.8	636.5	636.5	636.5	635.2	636.5	637.8	636.5	635.2	636.5
180°	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5



TEST NUMBER: P831083

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

**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°	14.2	16.8	20.6	24.5	28.3	32.2	30.9	32.2	33.5	34.8	37.4
92.5°	65.7	88.9	130.1	198.4	265.4	239.7	179.1	127.6	99.2	86.3	77.3
95°	117.3	167.5	277.0	469.0	680.3	764.1	619.8	463.9	314.4	246.1	199.7
97.5°	135.3	190.7	298.9	521.8	877.5	1175.1	1215.0	1065.6	804.0	633.9	487.0
100°	154.6	204.9	295.1	485.8	824.6	1220.2	1474.0	1519.1	1414.8	1264.0	1081.0
102.5°	176.5	221.6	300.2	454.8	747.3	1136.4	1486.9	1669.9	1691.8	1619.6	1520.4
105°	201.0	240.9	310.5	443.2	686.8	1035.9	1405.7	1675.0	1803.9	1828.4	1794.9
107.5°	228.1	265.4	327.3	440.7	643.0	947.0	1289.8	1597.7	1800.0	1900.5	1935.3
110°	255.1	291.2	349.2	447.1	619.8	873.6	1181.5	1476.6	1713.7	1876.0	1966.2



TEST NUMBER: P831083

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	283.5	318.3	371.1	460.0	606.9	824.6	1087.5	1356.8	1600.3	1787.1	1909.5
115°	311.8	346.6	395.6	474.2	605.6	792.4	1015.3	1253.7	1477.9	1667.3	1807.8
117.5°	340.2	372.4	421.3	492.2	606.9	770.5	967.7	1173.8	1372.2	1546.2	1691.8
120°	367.2	399.4	445.8	512.8	612.0	756.3	931.6	1113.3	1287.2	1441.8	1572.0
122.5°	391.7	426.5	471.6	532.1	621.1	747.3	901.9	1065.6	1218.9	1359.4	1477.9
125°	416.2	451.0	496.1	552.8	630.1	739.6	877.5	1024.3	1164.8	1288.5	1391.6
127.5°	439.4	474.2	518.0	569.5	640.4	735.7	854.3	987.0	1114.5	1227.9	1323.3
130°	460.0	494.8	537.3	586.3	650.7	731.9	836.2	952.2	1068.2	1172.5	1260.1
132.5°	479.3	512.8	554.1	601.7	658.4	730.6	819.5	920.0	1024.3	1119.7	1202.2
135°	496.1	530.9	570.8	614.6	666.1	729.3	805.3	891.6	983.1	1066.9	1140.3
137.5°	511.5	543.7	582.4	624.9	671.3	726.7	792.4	864.6	941.9	1016.6	1082.3
140°	524.4	556.6	594.0	632.6	676.5	725.4	780.8	841.4	907.1	968.9	1024.3
142.5°	537.3	566.9	603.0	640.4	680.3	722.8	770.5	819.5	873.6	925.1	971.5
145°	547.6	577.2	610.7	645.5	681.6	720.3	761.5	802.7	845.2	886.5	923.8
147.5°	560.5	586.3	617.2	649.4	681.6	716.4	752.5	788.6	823.3	858.1	885.2
150°	570.8	594.0	623.6	650.7	681.6	711.2	743.5	773.1	802.7	829.8	854.3
152.5°	581.1	603.0	627.5	653.3	677.7	704.8	733.2	758.9	783.4	806.6	825.9
155°	592.7	610.7	632.6	653.3	675.2	697.1	722.8	744.7	765.4	784.7	800.2
157.5°	603.0	617.2	635.2	654.6	671.3	690.6	711.2	729.3	747.3	762.8	775.7
160°	610.7	623.6	639.1	654.6	668.7	682.9	699.6	716.4	730.6	743.5	752.5
162.5°	617.2	627.5	640.4	653.3	663.6	675.2	688.1	700.9	712.5	724.1	731.9
165°	622.3	631.4	641.7	650.7	658.4	667.4	677.7	688.1	695.8	704.8	711.2
167.5°	627.5	633.9	641.7	649.4	653.3	659.7	667.4	676.5	682.9	688.1	693.2
170°	631.4	633.9	640.4	645.5	648.1	652.0	658.4	664.9	668.7	673.9	676.5
172.5°	633.9	635.2	640.4	644.2	644.2	645.5	649.4	654.6	657.1	661.0	662.3
175°	635.2	636.5	639.1	641.7	640.4	640.4	643.0	645.5	646.8	649.4	649.4
177.5°	636.5	636.5	637.8	640.4	637.8	636.5	637.8	639.1	640.4	641.7	641.7
180°	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5



TEST NUMBER: P831083

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

**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°	36.1	37.4	38.7	37.4
92.5°	74.7	69.6	70.9	68.3
95°	175.2	163.6	154.6	149.5
97.5°	400.7	351.8	320.8	306.7
100°	950.9	856.8	806.6	807.9
102.5°	1426.4	1356.8	1316.8	1279.5
105°	1735.6	1686.6	1645.4	1639.0
107.5°	1927.6	1904.4	1887.6	1873.5
110°	2002.3	2012.6	2010.0	2007.5



TEST NUMBER: P831083

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	1983.0	2020.4	2033.2	2034.5
115°	1904.4	1961.1	1986.9	1993.3
117.5°	1792.3	1855.4	1894.1	1903.1
120°	1673.7	1745.9	1776.8	1784.6
122.5°	1565.5	1628.7	1663.4	1673.7
125°	1474.0	1530.7	1562.9	1572.0
127.5°	1398.0	1447.0	1476.6	1484.3
130°	1328.4	1374.8	1401.9	1412.2
132.5°	1265.3	1311.7	1334.9	1341.3
135°	1203.4	1242.1	1265.3	1274.3
137.5°	1136.4	1176.4	1195.7	1203.4
140°	1073.3	1109.4	1130.0	1128.7
142.5°	1011.5	1042.4	1060.4	1059.1
145°	956.1	983.1	993.4	996.0
147.5°	911.0	930.3	940.6	941.9
150°	873.6	887.8	895.5	895.5
152.5°	840.1	853.0	856.8	856.8
155°	811.7	822.1	824.6	825.9
157.5°	786.0	793.7	796.3	796.3
160°	761.5	769.2	769.2	767.9
162.5°	737.0	743.5	743.5	742.2
165°	716.4	721.6	720.3	720.3
167.5°	695.8	699.6	698.4	698.4
170°	677.7	680.3	679.0	679.0
172.5°	662.3	664.9	662.3	661.0
175°	649.4	650.7	649.4	648.1
177.5°	640.4	641.7	639.1	639.1
180°	636.5	636.5	636.5	636.5



TEST NUMBER: P831083

CATALOG NUMBER: S123DIP-S1000D1195U850-4F0-1E-UDD-G4

**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	16.00	16.84	16.95	17.80	19.05	18.23	19.07	19.18	20.03	21.28
	3H	17.64	18.39	18.60	19.36	20.64	19.66	20.41	20.62	21.38	22.65
	4H	18.22	18.93	19.20	19.90	21.19	20.11	20.82	21.08	21.79	23.07
	6H	18.59	19.24	19.57	20.22	21.52	20.38	21.03	21.37	22.01	23.31
	8H	18.68	19.31	19.68	20.30	21.59	20.44	21.06	21.44	22.06	23.35
	12H	18.73	19.32	19.73	20.31	21.63	20.46	21.05	21.46	22.04	23.36
4H	2H	16.57	17.28	17.55	18.25	19.54	18.40	19.11	19.38	20.08	21.36
	3H	18.40	18.99	19.39	19.99	21.29	20.01	20.60	21.00	21.61	22.90
	4H	19.09	19.63	20.09	20.63	21.95	20.59	21.13	21.59	22.13	23.45
	6H	19.57	20.03	20.58	21.05	22.37	21.00	21.46	22.01	22.48	23.80
	8H	19.70	20.14	20.72	21.15	22.48	21.11	21.54	22.12	22.56	23.89
	12H	19.77	20.16	20.80	21.19	22.53	21.15	21.54	22.18	22.57	23.91
8H	4H	19.36	19.79	20.37	20.81	22.14	20.70	21.13	21.71	22.15	23.48
	6H	19.95	20.30	20.98	21.36	22.69	21.20	21.56	22.24	22.61	23.94
	8H	20.15	20.47	21.20	21.51	22.86	21.38	21.69	22.42	22.74	24.08
	12H	20.28	20.55	21.32	21.59	22.98	21.48	21.76	22.53	22.79	24.19
12H	4H	19.36	19.75	20.39	20.78	22.11	20.67	21.06	21.70	22.09	23.43
	6H	20.00	20.31	21.04	21.35	22.70	21.21	21.53	22.26	22.57	23.92
	8H	20.23	20.51	21.28	21.54	22.93	21.41	21.69	22.46	22.73	24.12