

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: P831076

Luminaire Tested: S123DIP-S1000D1195U835-4F0-1E-UDD-G1

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831076  
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-S1000D1195U835-4F0-1E-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: -

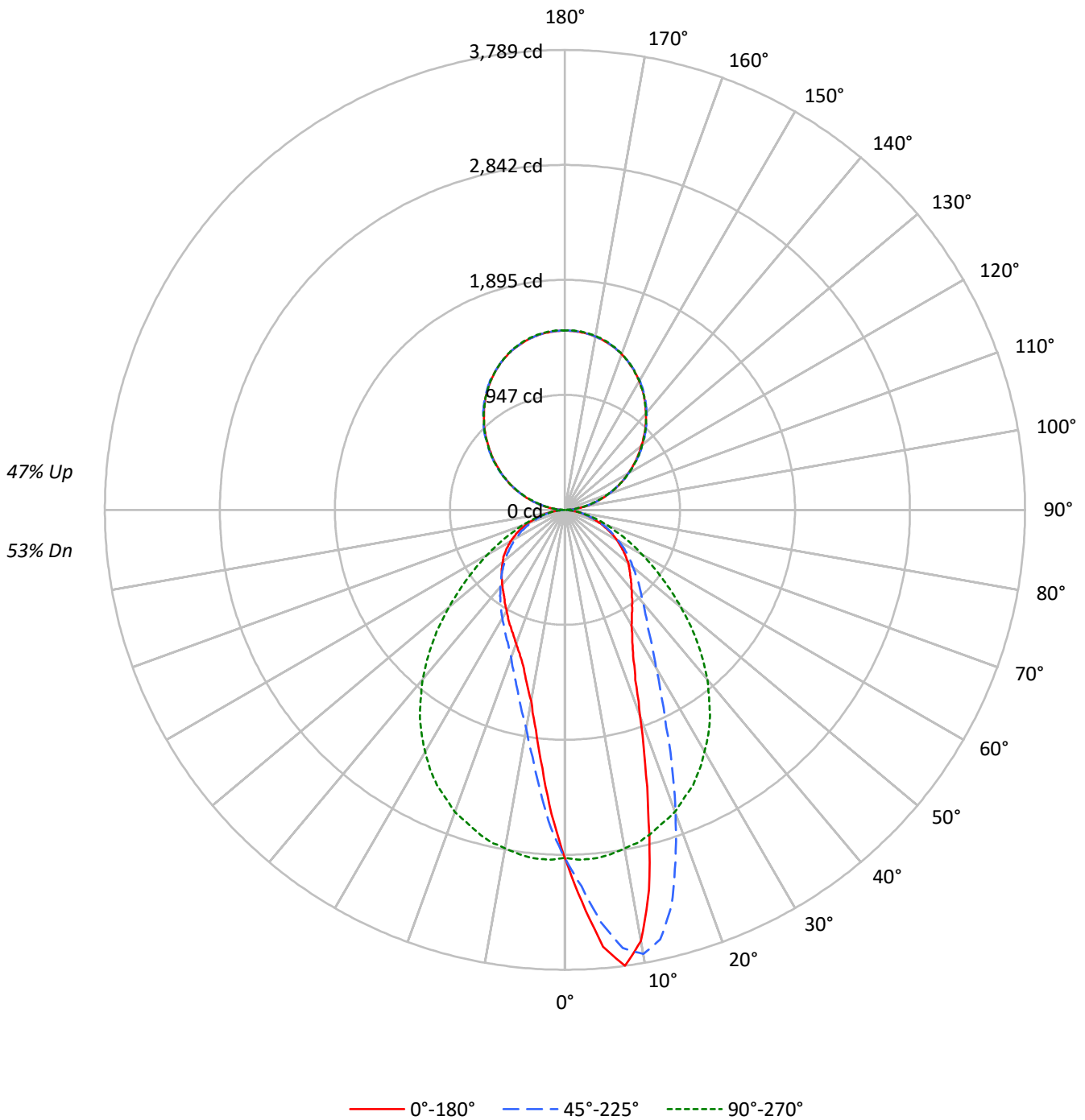
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8711.5 lumens  
Efficiency: N/A  
Efficacy: 131.8 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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### 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	50	30	10	0		
RCR																										
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53					53			
1	99	95	91	88	92	88	85	82	75	73	71	64	62	60	53	52	51	46					46			
2	91	84	78	73	84	78	73	68	67	63	60	57	54	51	47	45	44	39					39			
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	42	40	38	34					34			
4	76	66	58	53	71	62	55	50	53	48	44	46	42	39	38	36	33	30					30			
5	70	59	51	46	65	55	48	43	48	43	39	41	37	34	35	32	30	26					26			
6	65	54	46	40	60	50	43	38	44	38	34	38	33	30	32	29	26	24					24			
7	61	49	41	36	56	46	39	34	40	34	30	35	30	27	30	26	24	21					21			
8	56	44	37	32	52	42	35	30	37	31	27	32	28	25	27	24	22	19					19			
9	53	41	34	29	49	38	32	27	34	29	25	30	25	22	26	22	20	18					18			
10	49	38	31	26	46	36	29	25	31	26	23	28	23	20	24	21	18	16					16			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	30870	30870	30870	30870	30870
5°	39041	36847	31147	25099	23064
10°	39419	40611	30938	20007	17484
15°	29690	37706	30729	16944	14785
20°	20686	30511	30336	14818	13431
25°	15775	23464	29667	13632	12598
30°	13646	18641	28599	12795	11926
35°	12661	15738	27367	12189	11454
40°	11987	14119	25638	11612	11294
45°	11587	13067	23440	11163	11224
50°	11387	12234	20837	10752	11164
55°	10963	11626	18282	10365	11213
60°	10572	10973	15756	10000	11031
65°	9931	10356	13593	9610	10812
70°	9171	9571	11560	8963	10178
75°	8301	8580	9906	8330	9299
80°	6850	7507	7835	7259	7835
85°	5422	6076	5755	6163	6249

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 26761 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	271.1	3.1
10°-20°	674.5	7.7
20°-30°	798.7	9.2
30°-40°	803.0	9.2
40°-50°	736.8	8.5
50°-60°	608.1	7.0
60°-70°	430.2	4.9
70°-80°	229.6	2.6
80°-90°	61.4	0.7
90°-100°	95.2	1.1
100°-110°	288.2	3.3
110°-120°	490.6	5.6
120°-130°	645.4	7.4
130°-140°	725.5	8.3
140°-150°	713.2	8.2
150°-160°	600.4	6.9
160°-170°	399.7	4.6
170°-180°	140.0	1.6
0°-30°	1744.3	20.0
0°-40°	2547.3	29.2
0°-60°	3892.2	44.7
0°-90°	4613.4	53.0
90°-120°	874.0	10.0
90°-150°	2958.0	34.0
90°-180°	4098.0	47.0
0°-180°	8711.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2868	2868	2868	2868	2868	
5°	3613	3410	2883	2323	2135	344
15°	2664	3384	2758	1520	1327	736
25°	1328	1976	2498	1148	1061	627
35°	964	1198	2083	928	872	605
45°	761	858	1540	733	737	590
55°	584	620	974	552	598	523
65°	390	407	534	377	424	387
75°	200	206	238	200	224	210
85°	44	49	47	50	51	49
90°	35	28	1	28	35	19
95°	91	86	69	86	91	91
105°	276	274	261	274	276	293
115°	495	495	494	495	495	490
125°	715	724	723	724	715	639
135°	936	943	938	943	936	720
145°	1138	1143	1138	1143	1138	710
155°	1300	1304	1302	1304	1300	599
165°	1414	1415	1419	1415	1414	399
175°	1470	1471	1476	1471	1470	140
180°	1479	1479	1479	1479	1479	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9
2.5°	3232.6	3229.2	3225.9	3209.3	3192.6	3184.6	3176.7	3152.7	3128.8	3102.1	3075.5
5°	3613.2	3622.5	3631.8	3621.2	3610.5	3577.9	3545.3	3502.0	3458.8	3410.2	3361.6
7.5°	3788.8	3794.2	3799.5	3792.8	3786.2	3777.5	3768.9	3730.3	3691.7	3641.8	3591.9
10°	3606.5	3618.5	3630.5	3656.4	3682.4	3711.6	3740.9	3735.6	3730.3	3715.6	3701.0
12.5°	3205.9	3220.6	3235.2	3287.1	3339.0	3405.6	3472.1	3529.3	3586.6	3626.5	3666.4
15°	2664.3	2704.9	2745.5	2792.7	2840.0	2937.8	3035.6	3156.0	3276.5	3383.6	3490.7
17.5°	2194.5	2209.8	2225.1	2275.7	2326.3	2449.4	2572.5	2711.5	2850.6	3028.3	3205.9
20°	1805.9	1819.9	1833.9	1900.4	1966.9	2063.4	2159.9	2316.3	2472.7	2663.6	2854.6
22.5°	1517.1	1539.1	1561.0	1598.3	1635.6	1728.1	1820.6	1959.6	2098.7	2309.6	2520.6
25°	1328.2	1344.1	1360.1	1382.7	1405.3	1479.2	1553.1	1667.5	1782.0	1975.6	2169.2
27.5°	1199.1	1205.7	1212.4	1235.0	1257.6	1305.5	1353.4	1451.9	1550.4	1714.8	1879.1
30°	1097.9	1102.6	1107.2	1127.2	1147.2	1179.8	1212.4	1283.6	1354.8	1499.8	1644.9
32.5°	1027.4	1030.7	1034.0	1049.3	1064.7	1087.9	1111.2	1163.1	1215.0	1334.8	1454.6
35°	963.5	965.5	967.5	978.8	990.1	1007.4	1024.7	1064.0	1103.2	1197.7	1292.2
37.5°	907.6	910.3	912.9	919.6	926.2	941.6	956.9	988.1	1019.4	1091.9	1164.5
40°	853.1	857.7	862.4	867.0	871.7	884.3	897.0	920.9	944.9	1004.8	1064.7
42.5°	806.5	811.1	815.8	817.8	819.8	827.1	834.4	856.4	878.3	922.9	967.5
45°	761.2	763.2	765.2	767.2	769.2	775.2	781.2	800.5	819.8	858.4	897.0
47.5°	720.0	720.0	720.0	721.3	722.6	728.0	733.3	747.3	761.2	791.2	821.1
50°	680.0	680.0	680.0	678.1	676.1	679.4	682.7	693.4	704.0	730.6	757.2
52.5°	632.1	632.1	632.1	632.8	633.5	633.5	633.5	642.8	652.1	676.1	700.0
55°	584.2	586.9	589.6	587.6	585.6	586.9	588.2	594.2	600.2	619.5	638.8
57.5°	536.3	537.7	539.0	538.3	537.7	538.3	539.0	544.3	549.6	564.3	578.9
60°	491.1	491.1	491.1	489.7	488.4	489.7	491.1	493.7	496.4	509.7	523.0
62.5°	440.5	441.2	441.8	442.5	443.2	441.8	440.5	443.8	447.2	457.1	467.1
65°	389.9	390.6	391.3	393.3	395.3	393.9	392.6	395.9	399.2	406.6	413.9
67.5°	344.7	343.4	342.0	342.7	343.4	345.3	347.3	348.0	348.7	356.7	364.6
70°	291.4	292.8	294.1	293.4	292.8	293.4	294.1	296.1	298.1	304.1	310.1
72.5°	243.5	244.2	244.9	244.9	244.9	246.2	247.5	249.5	251.5	254.9	258.2
75°	199.6	199.6	199.6	201.0	202.3	202.9	203.6	203.6	203.6	206.3	208.9
77.5°	151.7	155.0	158.4	157.7	157.0	158.4	159.7	161.7	163.7	165.0	166.4
80°	110.5	110.5	110.5	111.1	111.8	113.8	115.8	117.1	118.4	121.1	123.8
82.5°	70.5	71.2	71.9	73.9	75.9	77.2	78.5	80.5	82.5	82.5	82.5
85°	43.9	42.6	41.3	42.6	43.9	45.2	46.6	47.2	47.9	49.2	50.6
87.5°	21.3	21.3	21.3	21.3	21.3	22.0	22.6	22.6	22.6	22.6	22.6
90°	34.9	34.3	33.8	33.3	32.8	32.0	31.0	30.0	28.9	27.9	24.5
92.5°	50.0	50.5	51.0	51.5	52.0	51.9	51.1	50.3	49.6	48.8	47.2
95°	90.6	90.6	90.6	90.6	90.6	90.1	89.1	88.0	87.0	86.0	83.9
97.5°	130.1	130.4	130.6	130.9	131.2	130.6	129.4	128.1	126.8	125.5	123.9
100°	176.6	176.1	175.6	175.1	174.5	173.9	173.1	172.3	171.6	170.8	169.5
102.5°	224.2	224.5	224.8	225.0	225.3	225.0	224.2	223.5	222.7	221.9	220.1
105°	276.5	276.0	275.5	275.0	274.5	274.2	274.2	274.2	274.2	274.2	271.9
107.5°	330.0	330.2	330.5	330.7	331.0	330.7	330.0	329.2	328.4	327.7	326.6
110°	384.6	385.1	385.6	386.1	386.6	386.4	385.4	384.3	383.3	382.3	381.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	442.7	442.7	442.7	442.7	442.7	442.0	440.7	439.4	438.2	436.9	436.9
115°	495.0	495.2	495.5	495.7	496.0	496.0	495.7	495.5	495.2	495.0	495.5
117.5°	548.4	549.2	550.0	550.7	551.5	551.9	551.9	551.9	551.9	551.9	552.4
120°	605.3	605.9	606.4	606.9	607.4	607.8	608.1	608.3	608.6	608.8	610.1
122.5°	659.9	660.7	661.5	662.3	663.0	663.8	664.6	665.4	666.1	666.9	667.4
125°	714.6	715.6	716.6	717.7	718.7	719.7	720.8	721.8	722.8	723.9	724.4
127.5°	769.2	770.2	771.2	772.3	773.3	774.6	776.1	777.7	779.2	780.8	781.3
130°	822.6	824.4	826.2	828.0	829.8	831.3	832.3	833.3	834.4	835.4	836.2
132.5°	878.4	879.7	881.0	882.3	883.5	884.8	886.1	887.4	888.7	890.0	890.5
135°	936.5	937.0	937.5	938.0	938.5	939.3	940.3	941.4	942.4	943.4	943.7
137.5°	987.6	988.4	989.1	989.9	990.7	991.7	993.0	994.3	995.6	996.9	996.1
140°	1037.6	1039.4	1041.2	1043.0	1044.8	1045.8	1046.1	1046.3	1046.6	1046.9	1046.6
142.5°	1088.7	1090.0	1091.3	1092.6	1093.8	1094.6	1094.9	1095.1	1095.4	1095.7	1095.1
145°	1137.5	1138.5	1139.5	1140.6	1141.6	1142.3	1142.5	1142.8	1143.0	1143.3	1142.5
147.5°	1181.6	1183.2	1184.7	1186.3	1187.8	1188.6	1188.6	1188.6	1188.6	1188.6	1187.8
150°	1223.5	1225.0	1226.6	1228.1	1229.7	1230.4	1230.4	1230.4	1230.4	1230.4	1229.9
152.5°	1264.1	1265.4	1266.7	1268.0	1269.3	1269.7	1269.2	1268.6	1268.1	1267.6	1267.4
155°	1300.1	1302.0	1303.8	1305.6	1307.4	1307.8	1306.7	1305.7	1304.7	1303.6	1303.4
157.5°	1333.8	1335.4	1336.9	1338.5	1340.0	1340.3	1339.3	1338.2	1337.2	1336.2	1335.9
160°	1366.4	1367.4	1368.4	1369.5	1370.5	1370.4	1369.1	1367.8	1366.5	1365.2	1365.2
162.5°	1390.8	1392.6	1394.4	1396.2	1398.0	1398.3	1397.0	1395.7	1394.4	1393.1	1392.8
165°	1414.0	1415.8	1417.6	1419.4	1421.2	1421.4	1419.8	1418.3	1416.7	1415.2	1415.2
167.5°	1434.9	1436.5	1438.0	1439.6	1441.1	1441.1	1439.6	1438.0	1436.5	1434.9	1434.7
170°	1450.0	1451.8	1453.6	1455.5	1457.3	1457.3	1455.5	1453.6	1451.8	1450.0	1450.0
172.5°	1461.6	1463.5	1465.3	1467.1	1468.9	1469.0	1467.5	1465.9	1464.4	1462.8	1462.8
175°	1469.8	1471.6	1473.4	1475.2	1477.0	1477.1	1475.6	1474.0	1472.5	1470.9	1470.9
177.5°	1474.4	1476.2	1478.0	1479.8	1481.7	1481.8	1480.2	1478.7	1477.1	1475.6	1475.6
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9
2.5°	3067.5	3059.5	3030.3	3001.0	2967.7	2934.5	2909.8	2885.2	2848.6	2812.0	2782.1
5°	3324.4	3287.1	3225.2	3163.4	3079.5	2995.7	2939.1	2882.6	2806.7	2730.8	2670.3
7.5°	3528.0	3464.1	3377.6	3291.1	3181.3	3071.5	2967.7	2863.9	2748.1	2632.4	2537.9
10°	3657.8	3614.5	3514.7	3414.9	3267.8	3120.8	2975.7	2830.6	2681.6	2532.5	2407.4
12.5°	3670.4	3674.4	3582.6	3490.7	3324.4	3158.0	2981.7	2805.4	2617.7	2430.1	2284.3
15°	3559.3	3627.8	3577.2	3526.7	3359.0	3191.3	2974.4	2757.5	2541.2	2324.9	2156.6
17.5°	3353.0	3500.0	3507.4	3514.7	3347.0	3179.3	2939.1	2698.9	2454.0	2209.2	2032.2
20°	3071.5	3288.4	3363.0	3437.5	3301.1	3164.7	2906.5	2648.3	2374.2	2100.0	1914.4
22.5°	2784.1	3047.6	3184.0	3320.4	3219.2	3118.1	2843.3	2568.5	2279.0	1989.6	1801.3
25°	2456.7	2744.1	2953.7	3163.4	3101.5	3039.6	2768.8	2497.9	2189.9	1881.8	1689.5
27.5°	2171.2	2463.3	2716.2	2969.1	2955.7	2942.4	2673.6	2404.8	2089.4	1774.0	1588.3
30°	1917.0	2189.2	2472.0	2754.8	2787.4	2820.0	2560.5	2301.0	1984.9	1668.8	1489.8
32.5°	1692.1	1929.7	2233.1	2536.5	2600.4	2664.3	2430.1	2195.8	1883.1	1570.4	1398.0
35°	1507.8	1723.4	2026.8	2330.3	2410.1	2490.0	2286.3	2082.7	1778.0	1473.2	1308.9
37.5°	1344.8	1525.1	1821.2	2117.3	2215.1	2313.0	2130.6	1948.3	1662.9	1377.4	1226.3
40°	1209.7	1354.8	1626.9	1899.1	2012.2	2125.3	1974.9	1824.6	1553.7	1282.9	1143.8
42.5°	1096.6	1225.7	1472.5	1719.4	1827.9	1936.3	1809.2	1682.2	1441.3	1200.4	1073.3
45°	1000.1	1103.2	1327.5	1551.7	1654.9	1758.0	1648.9	1539.8	1327.5	1115.2	996.8
47.5°	909.6	998.1	1189.8	1381.4	1473.2	1565.0	1479.9	1394.7	1215.0	1035.4	928.2
50°	828.4	899.6	1067.3	1235.0	1314.8	1394.7	1319.5	1244.3	1096.6	948.9	855.7
52.5°	757.9	815.8	956.2	1096.6	1165.1	1233.7	1169.1	1104.6	987.5	870.4	789.2
55°	688.0	737.3	859.0	980.8	1027.4	1074.0	1024.1	974.2	879.7	785.2	716.6
57.5°	622.8	666.7	766.6	866.4	902.3	938.2	893.0	847.7	776.5	705.3	648.1
60°	558.9	594.9	678.1	761.2	783.2	805.1	768.5	731.9	682.0	632.1	580.9
62.5°	499.7	532.3	594.2	656.1	670.7	685.4	657.4	629.5	591.5	553.6	513.7
65°	438.5	463.1	513.7	564.3	573.6	582.9	558.3	533.7	505.0	476.4	447.2
67.5°	381.9	399.2	440.5	481.8	482.4	483.1	463.1	443.2	427.2	411.2	387.9
70°	326.7	343.4	370.6	397.9	398.6	399.2	383.3	367.3	355.3	343.4	326.1
72.5°	270.2	282.1	302.8	323.4	322.1	320.7	310.7	300.8	291.4	282.1	269.5
75°	218.9	228.9	242.9	256.8	252.9	248.9	243.5	238.2	230.2	222.2	214.3
77.5°	172.3	178.3	186.3	194.3	191.6	189.0	184.3	179.7	173.7	167.7	164.4
80°	126.4	129.1	134.4	139.7	138.4	137.1	131.8	126.4	125.1	123.8	119.1
82.5°	85.8	89.2	90.5	91.8	91.2	90.5	86.5	82.5	81.2	79.8	79.2
85°	51.2	51.9	52.6	53.2	51.2	49.2	47.9	46.6	46.6	46.6	45.9
87.5°	23.3	24.0	24.0	24.0	23.3	22.6	21.3	20.0	20.6	21.3	21.3
90°	21.2	17.8	14.5	11.5	8.9	6.3	3.7	1.2	3.7	6.3	8.9
92.5°	45.7	44.2	42.6	41.1	39.5	38.0	36.4	34.9	36.4	38.0	39.5
95°	81.8	79.8	77.7	75.8	74.0	72.2	70.4	68.6	70.4	72.2	74.0
97.5°	122.4	120.8	119.3	117.9	116.6	115.3	114.0	112.7	114.0	115.3	116.6
100°	168.2	166.9	165.6	164.2	162.7	161.1	159.6	158.0	159.6	161.1	162.7
102.5°	218.3	216.5	214.7	213.4	212.6	211.8	211.1	210.3	211.1	211.8	212.6
105°	269.6	267.2	264.9	263.5	263.0	262.5	261.9	261.4	261.9	262.5	263.0
107.5°	325.6	324.6	323.5	322.9	322.6	322.4	322.1	321.8	322.1	322.4	322.6
110°	381.2	380.7	380.2	379.7	379.2	378.6	378.1	377.6	378.1	378.6	379.2



TEST NUMBER: P831076

CATALOG NUMBER: S123DIP-S1000D1195U835-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	436.9	436.9	436.9	436.7	436.5	436.2	436.0	435.7	436.0	436.2	436.5
115°	496.0	496.5	497.0	496.9	496.1	495.3	494.6	493.8	494.6	495.3	496.1
117.5°	552.9	553.4	554.0	554.1	553.8	553.6	553.3	553.1	553.3	553.6	553.8
120°	611.4	612.7	614.0	613.9	612.3	610.8	609.2	607.7	609.2	610.8	612.3
122.5°	668.0	668.5	669.0	668.7	667.7	666.7	665.6	664.6	665.6	666.7	667.7
125°	724.9	725.4	725.9	725.8	725.0	724.2	723.5	722.7	723.5	724.2	725.0
127.5°	781.8	782.3	782.8	782.3	780.8	779.2	777.7	776.1	777.7	779.2	780.8
130°	836.9	837.7	838.5	837.8	835.8	833.7	831.6	829.6	831.6	833.7	835.8
132.5°	891.0	891.6	892.1	891.3	889.2	887.2	885.1	883.0	885.1	887.2	889.2
135°	944.0	944.2	944.5	943.8	942.3	940.7	939.2	937.6	939.2	940.7	942.3
137.5°	995.3	994.6	993.8	992.8	991.5	990.2	988.9	987.6	988.9	990.2	991.5
140°	1046.3	1046.1	1045.8	1045.0	1043.8	1042.5	1041.2	1039.9	1041.2	1042.5	1043.8
142.5°	1094.6	1094.1	1093.6	1092.7	1091.4	1090.1	1088.8	1087.5	1088.8	1090.1	1091.4
145°	1141.7	1141.0	1140.2	1139.5	1139.0	1138.5	1138.0	1137.5	1138.0	1138.5	1139.0
147.5°	1187.1	1186.3	1185.5	1184.6	1183.6	1182.5	1181.5	1180.5	1181.5	1182.5	1183.6
150°	1229.4	1228.9	1228.4	1227.9	1227.3	1226.8	1226.3	1225.8	1226.3	1226.8	1227.3
152.5°	1267.1	1266.8	1266.6	1266.1	1265.3	1264.5	1263.7	1263.0	1263.7	1264.5	1265.3
155°	1303.1	1302.9	1302.6	1302.5	1302.5	1302.5	1302.5	1302.5	1302.5	1302.5	1302.5
157.5°	1335.6	1335.4	1335.1	1335.1	1335.4	1335.6	1335.9	1336.2	1335.9	1335.6	1335.4
160°	1365.2	1365.2	1365.2	1365.5	1366.0	1366.5	1367.0	1367.5	1367.0	1366.5	1366.0
162.5°	1392.6	1392.3	1392.1	1392.3	1393.1	1393.9	1394.6	1395.4	1394.6	1393.9	1393.1
165°	1415.2	1415.2	1415.2	1415.6	1416.3	1417.1	1417.9	1418.7	1417.9	1417.1	1416.3
167.5°	1434.4	1434.1	1433.9	1434.3	1435.3	1436.3	1437.4	1438.4	1437.4	1436.3	1435.3
170°	1450.0	1450.0	1450.0	1450.5	1451.6	1452.6	1453.6	1454.7	1453.6	1452.6	1451.6
172.5°	1462.8	1462.8	1462.8	1463.3	1464.4	1465.4	1466.4	1467.5	1466.4	1465.4	1464.4
175°	1470.9	1470.9	1470.9	1471.5	1472.5	1473.5	1474.6	1475.6	1474.6	1473.5	1472.5
177.5°	1475.6	1475.6	1475.6	1476.1	1477.1	1478.2	1479.2	1480.2	1479.2	1478.2	1477.1
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9	2867.9
2.5°	2752.1	2726.2	2700.2	2680.3	2660.3	2626.4	2592.4	2584.4	2576.5	2565.2	2553.8
5°	2609.7	2545.9	2482.0	2424.7	2367.5	2322.9	2278.4	2249.1	2219.8	2198.5	2177.2
7.5°	2443.4	2347.6	2251.7	2183.9	2116.0	2051.5	1986.9	1966.3	1945.7	1917.7	1889.8
10°	2282.4	2176.6	2070.8	1982.3	1893.8	1830.5	1767.3	1742.0	1716.8	1681.5	1646.2
12.5°	2138.6	2022.8	1907.1	1817.9	1728.7	1667.5	1606.3	1569.7	1533.1	1513.1	1493.2
15°	1988.2	1864.5	1740.7	1658.2	1575.7	1520.5	1465.2	1433.3	1401.4	1382.1	1362.8
17.5°	1855.2	1732.7	1610.3	1531.1	1451.9	1401.4	1350.8	1322.8	1294.9	1280.2	1265.6
20°	1728.7	1609.0	1489.2	1412.0	1334.8	1293.6	1252.3	1234.3	1216.4	1204.4	1192.4
22.5°	1613.0	1495.2	1377.4	1311.5	1245.6	1212.4	1179.1	1166.5	1153.8	1143.8	1133.9
25°	1497.2	1392.0	1286.9	1231.0	1175.1	1147.8	1120.5	1107.9	1095.3	1085.3	1075.3
27.5°	1402.7	1302.2	1201.7	1153.8	1105.9	1084.6	1063.3	1053.3	1043.4	1034.0	1024.7
30°	1310.9	1221.0	1131.2	1089.9	1048.7	1029.4	1010.1	1000.1	990.1	981.5	972.8
32.5°	1225.7	1148.5	1071.3	1033.4	995.5	979.5	963.5	951.5	939.6	932.9	926.2
35°	1144.5	1075.3	1006.1	974.8	943.5	927.6	911.6	901.6	891.6	886.3	881.0
37.5°	1075.3	1013.4	951.5	921.6	891.6	876.3	861.0	852.4	843.7	841.7	839.7
40°	1004.8	951.5	898.3	869.0	839.7	826.4	813.1	807.8	802.5	801.2	799.8
42.5°	946.2	894.3	842.4	815.8	789.2	777.9	766.6	763.9	761.2	763.2	765.2
45°	878.3	835.1	791.8	767.2	742.6	733.3	724.0	722.0	720.0	724.0	728.0
47.5°	821.1	781.2	741.3	718.0	694.7	688.0	681.4	680.7	680.0	685.4	690.7
50°	762.6	724.0	685.4	666.7	648.1	642.1	636.1	638.1	640.1	648.8	657.4
52.5°	708.0	672.1	636.1	618.8	601.5	597.5	593.5	598.2	602.9	612.2	621.5
55°	648.1	615.5	582.9	569.6	556.3	552.3	548.3	557.6	566.9	575.6	584.2
57.5°	590.9	562.3	533.7	521.7	509.7	509.0	508.4	517.0	525.7	535.0	544.3
60°	529.7	505.7	481.8	472.4	463.1	464.5	465.8	475.8	485.7	493.1	500.4
62.5°	473.8	453.8	433.8	425.2	416.5	419.9	423.2	433.2	443.2	451.8	460.5
65°	417.9	401.2	384.6	378.6	372.6	377.3	381.9	390.6	399.2	405.2	411.2
67.5°	364.6	350.7	336.7	332.0	327.4	332.0	336.7	345.3	354.0	360.0	366.0
70°	308.7	297.4	286.1	282.8	279.5	284.8	290.1	297.4	304.8	310.7	316.7
72.5°	256.8	248.2	239.5	238.9	238.2	242.9	247.5	254.9	262.2	266.2	270.2
75°	206.3	201.6	197.0	196.3	195.6	200.3	204.9	208.9	212.9	216.3	219.6
77.5°	161.0	157.0	153.0	153.7	154.4	157.7	161.0	165.0	169.0	171.0	173.0
80°	114.5	113.1	111.8	113.1	114.5	117.1	119.8	122.4	125.1	126.4	127.8
82.5°	78.5	77.2	75.9	77.9	79.8	81.8	83.8	85.8	87.8	88.5	89.2
85°	45.2	47.2	49.2	49.2	49.2	49.9	50.6	51.2	51.9	51.2	50.6
87.5°	21.3	22.0	22.6	22.6	22.6	23.3	24.0	24.0	24.0	23.3	22.6
90°	11.5	14.5	17.8	21.2	24.5	27.9	28.9	30.0	31.0	32.0	32.8
92.5°	41.1	42.6	44.2	45.7	47.2	48.8	49.6	50.3	51.1	51.9	52.0
95°	75.8	77.7	79.8	81.8	83.9	86.0	87.0	88.0	89.1	90.1	90.6
97.5°	117.9	119.3	120.8	122.4	123.9	125.5	126.8	128.1	129.4	130.6	131.2
100°	164.2	165.6	166.9	168.2	169.5	170.8	171.6	172.3	173.1	173.9	174.5
102.5°	213.4	214.7	216.5	218.3	220.1	221.9	222.7	223.5	224.2	225.0	225.3
105°	263.5	264.9	267.2	269.6	271.9	274.2	274.2	274.2	274.2	274.2	274.5
107.5°	322.9	323.5	324.6	325.6	326.6	327.7	328.4	329.2	330.0	330.7	331.0
110°	379.7	380.2	380.7	381.2	381.7	382.3	383.3	384.3	385.4	386.4	386.6



TEST NUMBER: P831076

CATALOG NUMBER: S123DIP-S1000D1195U835-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	436.7	436.9	436.9	436.9	436.9	436.9	438.2	439.4	440.7	442.0	442.7
115°	496.9	497.0	496.5	496.0	495.5	495.0	495.2	495.5	495.7	496.0	496.0
117.5°	554.1	554.0	553.4	552.9	552.4	551.9	551.9	551.9	551.9	551.9	551.5
120°	613.9	614.0	612.7	611.4	610.1	608.8	608.6	608.3	608.1	607.8	607.4
122.5°	668.7	669.0	668.5	668.0	667.4	666.9	666.1	665.4	664.6	663.8	663.0
125°	725.8	725.9	725.4	724.9	724.4	723.9	722.8	721.8	720.8	719.7	718.7
127.5°	782.3	782.8	782.3	781.8	781.3	780.8	779.2	777.7	776.1	774.6	773.3
130°	837.8	838.5	837.7	836.9	836.2	835.4	834.4	833.3	832.3	831.3	829.8
132.5°	891.3	892.1	891.6	891.0	890.5	890.0	888.7	887.4	886.1	884.8	883.5
135°	943.8	944.5	944.2	944.0	943.7	943.4	942.4	941.4	940.3	939.3	938.5
137.5°	992.8	993.8	994.6	995.3	996.1	996.9	995.6	994.3	993.0	991.7	990.7
140°	1045.0	1045.8	1046.1	1046.3	1046.6	1046.9	1046.6	1046.3	1046.1	1045.8	1044.8
142.5°	1092.7	1093.6	1094.1	1094.6	1095.1	1095.7	1095.4	1095.1	1094.9	1094.6	1093.8
145°	1139.5	1140.2	1141.0	1141.7	1142.5	1143.3	1143.0	1142.8	1142.5	1142.3	1141.6
147.5°	1184.6	1185.5	1186.3	1187.1	1187.8	1188.6	1188.6	1188.6	1188.6	1188.6	1187.8
150°	1227.9	1228.4	1228.9	1229.4	1229.9	1230.4	1230.4	1230.4	1230.4	1230.4	1229.7
152.5°	1266.1	1266.6	1266.8	1267.1	1267.4	1267.6	1268.1	1268.6	1269.2	1269.7	1269.3
155°	1302.5	1302.6	1302.9	1303.1	1303.4	1303.6	1304.7	1305.7	1306.7	1307.8	1307.4
157.5°	1335.1	1335.1	1335.4	1335.6	1335.9	1336.2	1337.2	1338.2	1339.3	1340.3	1340.0
160°	1365.5	1365.2	1365.2	1365.2	1365.2	1365.2	1366.5	1367.8	1369.1	1370.4	1370.5
162.5°	1392.3	1392.1	1392.3	1392.6	1392.8	1393.1	1394.4	1395.7	1397.0	1398.3	1398.0
165°	1415.6	1415.2	1415.2	1415.2	1415.2	1415.2	1416.7	1418.3	1419.8	1421.4	1421.2
167.5°	1434.3	1433.9	1434.1	1434.4	1434.7	1434.9	1436.5	1438.0	1439.6	1441.1	1441.1
170°	1450.5	1450.0	1450.0	1450.0	1450.0	1450.0	1451.8	1453.6	1455.5	1457.3	1457.3
172.5°	1463.3	1462.8	1462.8	1462.8	1462.8	1462.8	1464.4	1465.9	1467.5	1469.0	1468.9
175°	1471.5	1470.9	1470.9	1470.9	1470.9	1470.9	1472.5	1474.0	1475.6	1477.1	1477.0
177.5°	1476.1	1475.6	1475.6	1475.6	1475.6	1475.6	1477.1	1478.7	1480.2	1481.8	1481.7
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1



TEST NUMBER: P831076

CATALOG NUMBER: S123DIP-S1000D1195U835-4F0-1E-UDD-G1

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2867.9	2867.9	2867.9	2867.9
2.5°	2549.2	2544.5	2525.9	2507.3
5°	2161.2	2145.3	2140.0	2134.6
7.5°	1888.4	1887.1	1859.2	1831.2
10°	1648.2	1650.2	1624.9	1599.6
12.5°	1476.5	1459.9	1457.9	1455.9
15°	1347.5	1332.1	1329.5	1326.8
17.5°	1256.3	1247.0	1244.3	1241.7
20°	1187.1	1181.8	1177.1	1172.5
22.5°	1127.2	1120.5	1116.6	1112.6
25°	1069.3	1063.3	1062.0	1060.7
27.5°	1017.4	1010.1	1010.1	1010.1
30°	968.2	963.5	961.5	959.5
32.5°	922.3	918.3	918.3	918.3
35°	879.0	877.0	874.3	871.7
37.5°	839.7	839.7	838.4	837.1
40°	801.8	803.8	803.8	803.8
42.5°	767.2	769.2	769.2	769.2
45°	731.3	734.6	735.9	737.3
47.5°	696.0	701.3	702.7	704.0
50°	661.4	665.4	666.1	666.7
52.5°	626.1	630.8	634.1	637.5
55°	588.9	593.5	595.5	597.5
57.5°	549.0	553.6	554.3	555.0
60°	505.0	509.7	511.0	512.4
62.5°	463.1	465.8	467.1	468.4
65°	415.2	419.2	421.9	424.5
67.5°	369.3	372.6	372.6	372.6
70°	318.1	319.4	321.4	323.4
72.5°	270.8	271.5	271.5	271.5
75°	220.9	222.2	222.9	223.6
77.5°	173.7	174.3	174.3	174.3
80°	127.1	126.4	126.4	126.4
82.5°	87.2	85.2	85.2	85.2
85°	49.9	49.2	49.9	50.6
87.5°	22.6	22.6	22.6	22.6
90°	33.3	33.8	34.3	34.9
92.5°	51.5	51.0	50.5	50.0
95°	90.6	90.6	90.6	90.6
97.5°	130.9	130.6	130.4	130.1
100°	175.1	175.6	176.1	176.6
102.5°	225.0	224.8	224.5	224.2
105°	275.0	275.5	276.0	276.5
107.5°	330.7	330.5	330.2	330.0
110°	386.1	385.6	385.1	384.6



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**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	442.7	442.7	442.7	442.7
115°	495.7	495.5	495.2	495.0
117.5°	550.7	550.0	549.2	548.4
120°	606.9	606.4	605.9	605.3
122.5°	662.3	661.5	660.7	659.9
125°	717.7	716.6	715.6	714.6
127.5°	772.3	771.2	770.2	769.2
130°	828.0	826.2	824.4	822.6
132.5°	882.3	881.0	879.7	878.4
135°	938.0	937.5	937.0	936.5
137.5°	989.9	989.1	988.4	987.6
140°	1043.0	1041.2	1039.4	1037.6
142.5°	1092.6	1091.3	1090.0	1088.7
145°	1140.6	1139.5	1138.5	1137.5
147.5°	1186.3	1184.7	1183.2	1181.6
150°	1228.1	1226.6	1225.0	1223.5
152.5°	1268.0	1266.7	1265.4	1264.1
155°	1305.6	1303.8	1302.0	1300.1
157.5°	1338.5	1336.9	1335.4	1333.8
160°	1369.5	1368.4	1367.4	1366.4
162.5°	1396.2	1394.4	1392.6	1390.8
165°	1419.4	1417.6	1415.8	1414.0
167.5°	1439.6	1438.0	1436.5	1434.9
170°	1455.5	1453.6	1451.8	1450.0
172.5°	1467.1	1465.3	1463.5	1461.6
175°	1475.2	1473.4	1471.6	1469.8
177.5°	1479.8	1478.0	1476.2	1474.4
180°	1479.1	1479.1	1479.1	1479.1



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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	15.76	16.61	16.70	17.56	18.79	17.99	18.84	18.93	19.79	21.02
	3H	17.40	18.16	18.35	19.12	20.38	19.42	20.18	20.37	21.14	22.39
	4H	17.98	18.70	18.94	19.66	20.93	19.87	20.59	20.83	21.55	22.81
	6H	18.35	19.01	19.33	19.98	21.26	20.14	20.80	21.12	21.77	23.05
	8H	18.45	19.08	19.43	20.06	21.34	20.20	20.83	21.19	21.82	23.09
	12H	18.49	19.09	19.48	20.07	21.37	20.22	20.82	21.21	21.80	23.10
4H	2H	16.33	17.05	17.30	18.01	19.28	18.16	18.87	19.13	19.84	21.10
	3H	18.16	18.76	19.14	19.75	21.03	19.77	20.37	20.75	21.37	22.64
	4H	18.86	19.40	19.84	20.39	21.69	20.36	20.90	21.34	21.89	23.19
	6H	19.33	19.80	20.33	20.81	22.11	20.76	21.23	21.76	22.24	23.54
	8H	19.47	19.91	20.47	20.91	22.22	20.87	21.31	21.87	22.32	23.63
	12H	19.53	19.93	20.55	20.95	22.27	20.92	21.31	21.94	22.33	23.65
8H	4H	19.12	19.56	20.12	20.56	21.88	20.46	20.90	21.46	21.90	23.22
	6H	19.71	20.07	20.74	21.12	22.43	20.96	21.33	21.99	22.37	23.68
	8H	19.92	20.24	20.95	21.27	22.60	21.14	21.46	22.18	22.49	23.83
	12H	20.04	20.32	21.08	21.35	22.72	21.24	21.52	22.28	22.55	23.93
12H	4H	19.12	19.52	20.14	20.54	21.86	20.44	20.83	21.46	21.85	23.17
	6H	19.76	20.08	20.79	21.11	22.44	20.98	21.30	22.01	22.33	23.66
	8H	19.99	20.27	21.03	21.30	22.68	21.18	21.46	22.21	22.48	23.86