

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: P831350

Luminaire Tested: S123DIP-S340D1195U840-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

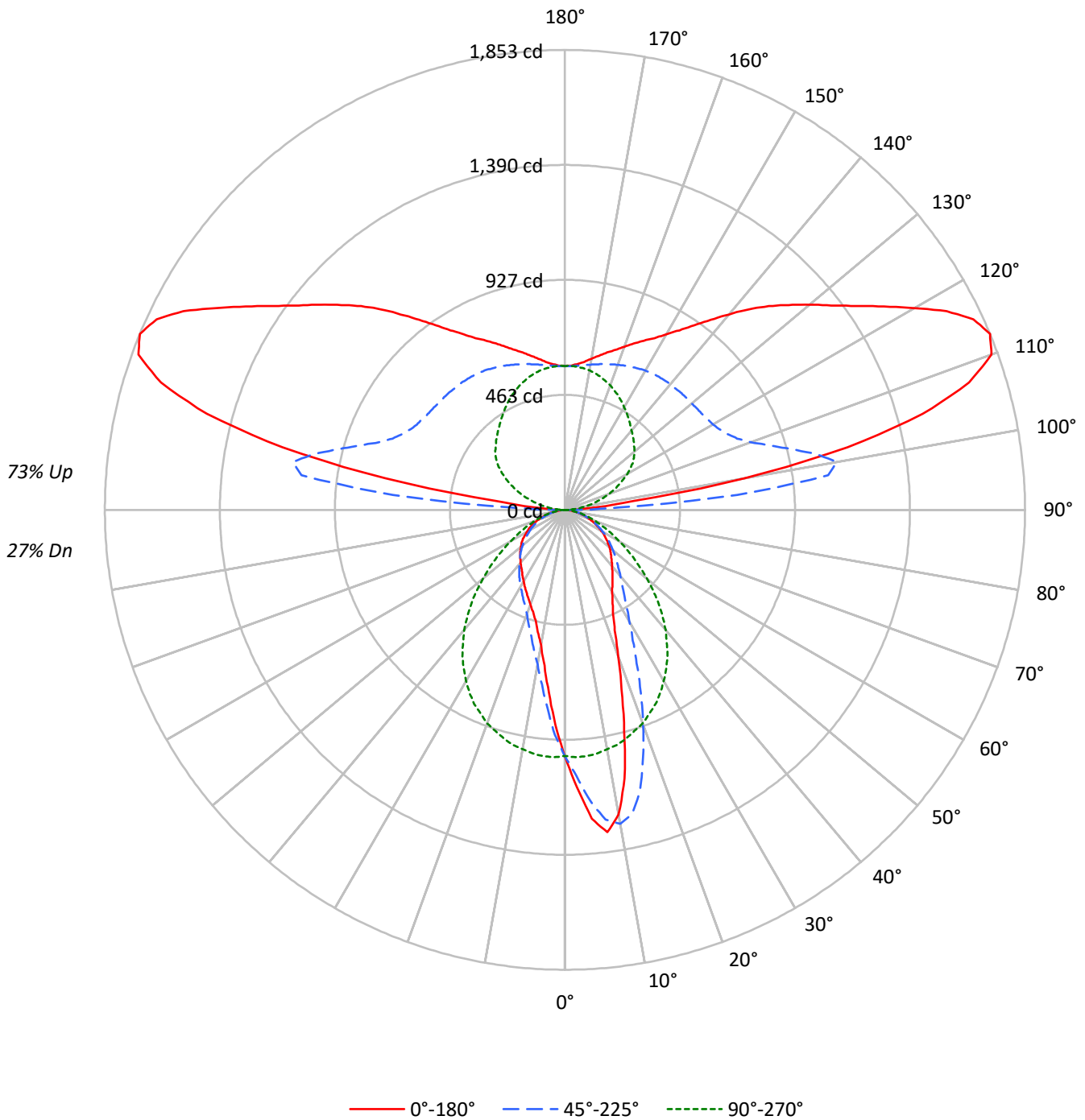
Test Method: LM-79-2019  
Report Number: P831350  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D1195U840-4F0-1E-UDD-G4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5957.0 lumens  
Efficiency: N/A  
Efficacy: 137.3 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: Semi-Indirect  
  
Input Watts (W): 43.4  
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-S340D1195U840-4F0-1E-UDD-G4

### Luminous Intensity Polar Plot





TEST NUMBER: P831350

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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27				
1	93	89	85	82	83	79	76	74	62	60	58	46	45	44	31	30	30	23				
2	85	78	72	67	75	70	65	61	55	51	49	41	39	37	28	27	26	20				
3	77	69	62	56	69	62	56	51	48	44	41	36	34	31	25	23	22	17				
4	71	61	53	48	63	55	48	44	43	39	35	32	30	27	22	21	19	15				
5	65	54	47	41	58	49	42	37	39	34	31	29	26	24	20	19	17	13				
6	60	49	41	36	54	44	37	33	35	30	27	27	23	21	19	17	15	12				
7	56	44	36	31	50	40	33	29	32	27	24	24	21	19	17	15	14	11				
8	52	40	33	28	46	36	30	25	29	24	21	22	19	17	16	14	12	10				
9	48	36	29	25	43	33	27	23	27	22	19	20	17	15	15	13	11	9				
10	45	33	27	22	40	30	24	20	24	20	17	19	16	14	14	12	10	8				

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

	0°	45°	90°	135°	180°
0°	10672	10672	10672	10672	10672
5°	13498	12739	10768	8678	7974
10°	13629	14041	10696	6918	6044
15°	10264	13036	10623	5858	5112
20°	7152	10549	10488	5123	4643
25°	5454	8112	10257	4713	4355
30°	4718	6444	9887	4424	4123
35°	4377	5441	9462	4214	3960
40°	4144	4881	8864	4014	3905
45°	4007	4518	8103	3859	3880
50°	3937	4230	7204	3718	3860
55°	3791	4020	6320	3582	3877
60°	3655	3793	5449	3457	3813
65°	3433	3581	4699	3321	3739
70°	3172	3308	3997	3100	3519
75°	2870	2965	3427	2878	3215
80°	2368	2597	2709	2510	2709
85°	1877	2100	1988	2137	2161

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 9252 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.7	1.6
10°-20°	233.2	3.9
20°-30°	276.1	4.6
30°-40°	277.6	4.7
40°-50°	254.7	4.3
50°-60°	210.2	3.5
60°-70°	148.7	2.5
70°-80°	79.4	1.3
80°-90°	23.3	0.4
90°-100°	314.5	5.3
100°-110°	920.8	15.5
110°-120°	899.2	15.1
120°-130°	716.1	12.0
130°-140°	565.0	9.5
140°-150°	421.5	7.1
150°-160°	293.9	4.9
160°-170°	172.6	2.9
170°-180°	56.2	0.9
0°-30°	603.1	10.1
0°-40°	880.7	14.8
0°-60°	1345.6	22.6
0°-90°	1597.1	26.8
90°-120°	2134.6	35.8
90°-150°	3837.3	64.4
90°-180°	4360.0	73.2
0°-180°	5957.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	992	992	992	992	992	
5°	1249	1179	997	803	738	119
15°	921	1170	953	526	459	254
25°	459	683	864	397	367	217
35°	333	414	720	321	301	209
45°	263	297	532	254	255	204
55°	202	214	337	191	207	181
65°	135	141	184	130	147	134
75°	69	71	82	69	77	73
85°	15	17	16	17	18	17
90°	34	29	2	29	34	19
95°	136	696	40	696	136	221
105°	1492	943	136	943	1492	1489
115°	1815	722	240	722	1815	1770
125°	1431	674	334	674	1431	1295
135°	1160	664	392	664	1160	900
145°	907	656	447	656	907	576
155°	752	635	508	635	752	350
165°	656	608	555	608	656	187
175°	590	583	578	583	590	57
180°	580	580	580	580	580	



TEST NUMBER: P831350

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5
2.5°	1117.6	1116.4	1115.3	1109.5	1103.8	1101.0	1098.3	1090.0	1081.7	1072.5	1063.3
5°	1249.2	1252.4	1255.6	1251.9	1248.2	1237.0	1225.7	1210.7	1195.8	1179.0	1162.2
7.5°	1309.9	1311.7	1313.6	1311.3	1309.0	1306.0	1303.0	1289.7	1276.3	1259.1	1241.8
10°	1246.9	1251.0	1255.1	1264.1	1273.1	1283.2	1293.3	1291.5	1289.7	1284.6	1279.5
12.5°	1108.4	1113.4	1118.5	1136.4	1154.4	1177.4	1200.4	1220.2	1240.0	1253.8	1267.6
15°	921.1	935.1	949.2	965.5	981.8	1015.7	1049.5	1091.1	1132.8	1169.8	1206.8
17.5°	758.7	764.0	769.3	786.8	804.3	846.8	889.4	937.4	985.5	1047.0	1108.4
20°	624.4	629.2	634.0	657.0	680.0	713.4	746.7	800.8	854.9	920.9	986.9
22.5°	524.5	532.1	539.7	552.6	565.5	597.4	629.4	677.5	725.6	798.5	871.4
25°	459.2	464.7	470.2	478.0	485.9	511.4	536.9	576.5	616.1	683.0	750.0
27.5°	414.5	416.8	419.1	427.0	434.8	451.4	467.9	502.0	536.0	592.8	649.7
30°	379.6	381.2	382.8	389.7	396.6	407.9	419.1	443.8	468.4	518.5	568.7
32.5°	355.2	356.3	357.5	362.8	368.1	376.1	384.2	402.1	420.1	461.5	502.9
35°	333.1	333.8	334.5	338.4	342.3	348.3	354.3	367.8	381.4	414.1	446.8
37.5°	313.8	314.7	315.6	317.9	320.2	325.5	330.8	341.6	352.4	377.5	402.6
40°	294.9	296.5	298.1	299.8	301.4	305.7	310.1	318.4	326.7	347.4	368.1
42.5°	278.8	280.4	282.0	282.7	283.4	286.0	288.5	296.1	303.7	319.1	334.5
45°	263.2	263.9	264.6	265.2	265.9	268.0	270.1	276.7	283.4	296.8	310.1
47.5°	248.9	248.9	248.9	249.4	249.8	251.7	253.5	258.3	263.2	273.5	283.9
50°	235.1	235.1	235.1	234.4	233.7	234.9	236.0	239.7	243.4	252.6	261.8
52.5°	218.5	218.5	218.5	218.8	219.0	219.0	219.0	222.2	225.4	233.7	242.0
55°	202.0	202.9	203.8	203.1	202.4	202.9	203.4	205.4	207.5	214.2	220.8
57.5°	185.4	185.9	186.3	186.1	185.9	186.1	186.3	188.2	190.0	195.1	200.1
60°	169.8	169.8	169.8	169.3	168.9	169.3	169.8	170.7	171.6	176.2	180.8
62.5°	152.3	152.5	152.8	153.0	153.2	152.8	152.3	153.4	154.6	158.0	161.5
65°	134.8	135.0	135.3	136.0	136.6	136.2	135.7	136.9	138.0	140.6	143.1
67.5°	119.2	118.7	118.2	118.5	118.7	119.4	120.1	120.3	120.5	123.3	126.1
70°	100.8	101.2	101.7	101.5	101.2	101.5	101.7	102.4	103.1	105.1	107.2
72.5°	84.2	84.4	84.7	84.7	84.7	85.1	85.6	86.3	87.0	88.1	89.3
75°	69.0	69.0	69.0	69.5	69.9	70.2	70.4	70.4	70.4	71.3	72.2
77.5°	52.5	53.6	54.8	54.5	54.3	54.8	55.2	55.9	56.6	57.1	57.5
80°	38.2	38.2	38.2	38.4	38.6	39.3	40.0	40.5	40.9	41.9	42.8
82.5°	24.4	24.6	24.8	25.5	26.2	26.7	27.1	27.8	28.5	28.5	28.5
85°	15.2	14.7	14.3	14.7	15.2	15.6	16.1	16.3	16.6	17.0	17.5
87.5°	7.4	7.4	7.4	7.4	7.4	7.6	7.8	7.8	7.8	7.8	7.8
90°	34.0	35.2	34.0	32.9	34.0	31.7	30.5	29.3	28.2	29.3	25.8
92.5°	62.2	64.5	63.4	68.1	70.4	78.6	90.3	116.2	163.1	218.2	241.7
95°	136.1	140.8	149.0	159.6	181.9	224.1	286.3	422.4	564.4	695.8	619.5
97.5°	279.2	292.2	320.3	364.9	443.5	577.3	732.1	970.3	1106.4	1070.1	799.0
100°	735.7	734.5	780.3	865.9	984.4	1151.0	1288.3	1383.3	1342.3	1111.1	750.9
102.5°	1165.1	1199.1	1235.5	1298.9	1384.5	1474.9	1540.6	1520.6	1354.0	1034.9	680.5
105°	1492.5	1498.3	1535.9	1580.4	1634.4	1664.9	1642.6	1525.3	1280.1	943.3	625.4
107.5°	1706.0	1718.9	1734.2	1755.3	1762.3	1730.6	1639.1	1454.9	1174.5	862.4	585.5
110°	1828.0	1830.4	1832.7	1823.3	1790.5	1708.3	1560.5	1344.6	1075.9	795.5	564.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1852.7	1851.5	1839.7	1805.7	1738.8	1627.4	1457.3	1235.5	990.3	750.9	552.6
115°	1815.1	1809.2	1785.8	1734.2	1646.2	1518.3	1345.8	1141.6	924.6	721.6	551.5
117.5°	1733.0	1724.8	1689.6	1632.1	1540.6	1408.0	1249.6	1068.9	881.2	701.6	552.6
120°	1625.0	1618.0	1589.8	1524.1	1431.4	1312.9	1172.1	1013.7	848.3	688.7	557.3
122.5°	1524.1	1514.7	1483.1	1425.6	1345.8	1237.8	1110.0	970.3	821.3	680.5	565.5
125°	1431.4	1423.2	1393.9	1342.3	1267.2	1173.3	1060.7	932.8	799.0	673.5	573.7
127.5°	1351.7	1344.6	1317.6	1273.0	1205.0	1118.2	1014.9	898.8	777.9	670.0	583.1
130°	1285.9	1276.6	1251.9	1209.7	1147.5	1067.7	972.7	867.1	761.5	666.4	592.5
132.5°	1221.4	1215.5	1194.4	1152.2	1094.7	1019.6	932.8	837.7	746.2	665.3	599.6
135°	1160.4	1152.2	1131.1	1095.9	1038.4	971.5	895.2	811.9	733.3	664.1	606.6
137.5°	1095.9	1088.8	1071.2	1034.9	985.6	925.7	857.7	787.3	721.6	661.7	611.3
140°	1027.8	1029.0	1010.2	977.4	932.8	882.3	826.0	766.2	711.0	660.6	616.0
142.5°	964.5	965.6	949.2	921.0	884.7	842.4	795.5	746.2	701.6	658.2	619.5
145°	907.0	904.6	895.2	870.6	841.3	807.2	769.7	731.0	693.4	655.9	620.7
147.5°	857.7	856.5	847.1	829.5	806.1	781.4	749.7	718.1	685.2	652.4	620.7
150°	815.5	815.5	808.4	795.5	777.9	755.6	731.0	704.0	677.0	647.7	620.7
152.5°	780.3	780.3	776.7	765.0	752.1	734.5	713.4	691.1	667.6	641.8	617.2
155°	752.1	750.9	748.6	739.2	728.6	714.5	696.9	678.2	658.2	634.8	614.8
157.5°	725.1	725.1	722.8	715.7	706.3	694.6	680.5	664.1	647.7	628.9	611.3
160°	699.3	700.5	700.5	693.4	685.2	677.0	665.3	652.4	637.1	621.9	608.9
162.5°	675.8	677.0	677.0	671.1	666.4	659.4	648.8	638.3	626.5	614.8	604.3
165°	655.9	655.9	657.1	652.4	647.7	641.8	633.6	626.5	617.2	607.8	599.6
167.5°	635.9	635.9	637.1	633.6	631.2	626.5	621.9	616.0	607.8	600.7	594.9
170°	618.3	618.3	619.5	617.2	616.0	613.6	608.9	605.4	599.6	593.7	590.2
172.5°	601.9	603.1	605.4	603.1	603.1	601.9	598.4	596.0	591.3	587.8	586.7
175°	590.2	591.3	592.5	591.3	591.3	591.3	589.0	587.8	585.5	583.1	583.1
177.5°	582.0	582.0	584.3	583.1	584.3	584.3	583.1	582.0	580.8	579.6	580.8
180°	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5
2.5°	1060.5	1057.8	1047.6	1037.5	1026.0	1014.5	1006.0	997.5	984.8	972.2	961.8
5°	1149.3	1136.4	1115.0	1093.7	1064.7	1035.7	1016.1	996.6	970.3	944.1	923.2
7.5°	1219.7	1197.6	1167.7	1137.8	1099.9	1061.9	1026.0	990.1	950.1	910.1	877.4
10°	1264.6	1249.6	1215.1	1180.6	1129.8	1078.9	1028.8	978.6	927.1	875.6	832.3
12.5°	1269.0	1270.3	1238.6	1206.8	1149.3	1091.8	1030.8	969.9	905.0	840.1	789.8
15°	1230.5	1254.2	1236.7	1219.3	1161.3	1103.3	1028.3	953.3	878.6	803.8	745.6
17.5°	1159.2	1210.1	1212.6	1215.1	1157.1	1099.2	1016.1	933.1	848.4	763.8	702.6
20°	1061.9	1136.9	1162.7	1188.4	1141.3	1094.1	1004.9	915.6	820.8	726.0	661.9
22.5°	962.5	1053.6	1100.8	1147.9	1113.0	1078.0	983.0	888.0	787.9	687.8	622.7
25°	849.3	948.7	1021.2	1093.7	1072.3	1050.9	957.2	863.6	757.1	650.6	584.1
27.5°	750.7	851.6	939.1	1026.5	1021.9	1017.3	924.3	831.4	722.4	613.3	549.1
30°	662.8	756.9	854.6	952.4	963.7	974.9	885.2	795.5	686.2	577.0	515.1
32.5°	585.0	667.1	772.0	876.9	899.0	921.1	840.1	759.2	651.0	542.9	483.3
35°	521.3	595.8	700.7	805.6	833.2	860.8	790.4	720.1	614.7	509.3	452.5
37.5°	464.9	527.3	629.6	732.0	765.8	799.7	736.6	673.6	574.9	476.2	424.0
40°	418.2	468.4	562.5	656.6	695.7	734.8	682.8	630.8	537.2	443.5	395.5
42.5°	379.1	423.8	509.1	594.4	631.9	669.4	625.5	581.6	498.3	415.0	371.1
45°	345.8	381.4	458.9	536.5	572.1	607.8	570.1	532.3	458.9	385.6	344.6
47.5°	314.5	345.1	411.3	477.6	509.3	541.1	511.6	482.2	420.1	358.0	320.9
50°	286.4	311.0	369.0	427.0	454.6	482.2	456.2	430.2	379.1	328.0	295.8
52.5°	262.0	282.0	330.6	379.1	402.8	426.5	404.2	381.9	341.4	300.9	272.8
55°	237.9	254.9	297.0	339.1	355.2	371.3	354.0	336.8	304.1	271.5	247.8
57.5°	215.3	230.5	265.0	299.5	311.9	324.4	308.7	293.1	268.5	243.9	224.1
60°	193.2	205.7	234.4	263.2	270.8	278.4	265.7	253.1	235.8	218.5	200.8
62.5°	172.8	184.0	205.4	226.8	231.9	237.0	227.3	217.6	204.5	191.4	177.6
65°	151.6	160.1	177.6	195.1	198.3	201.5	193.0	184.5	174.6	164.7	154.6
67.5°	132.0	138.0	152.3	166.6	166.8	167.0	160.1	153.2	147.7	142.2	134.1
70°	113.0	118.7	128.1	137.6	137.8	138.0	132.5	127.0	122.8	118.7	112.7
72.5°	93.4	97.5	104.7	111.8	111.3	110.9	107.4	104.0	100.8	97.5	93.2
75°	75.7	79.1	84.0	88.8	87.4	86.0	84.2	82.4	79.6	76.8	74.1
77.5°	59.6	61.7	64.4	67.2	66.3	65.3	63.7	62.1	60.0	58.0	56.8
80°	43.7	44.6	46.5	48.3	47.9	47.4	45.5	43.7	43.2	42.8	41.2
82.5°	29.7	30.8	31.3	31.7	31.5	31.3	29.9	28.5	28.1	27.6	27.4
85°	17.7	17.9	18.2	18.4	17.7	17.0	16.6	16.1	16.1	16.1	15.9
87.5°	8.1	8.3	8.3	8.3	8.1	7.8	7.4	6.9	7.1	7.4	7.4
90°	22.3	18.8	15.3	12.9	10.6	7.0	4.7	2.3	4.7	7.0	10.6
92.5°	180.7	118.5	81.0	59.8	48.1	37.5	25.8	17.6	25.8	37.5	48.1
95°	427.1	252.3	152.5	106.8	76.3	56.3	43.4	39.9	43.4	56.3	76.3
97.5°	475.2	272.2	173.6	123.2	92.7	75.1	64.5	63.4	64.5	75.1	92.7
100°	442.3	268.7	186.6	140.8	112.6	96.2	88.0	86.8	88.0	96.2	112.6
102.5°	414.2	273.4	201.8	160.7	136.1	120.9	113.8	111.5	113.8	120.9	136.1
105°	403.6	282.8	219.4	183.0	160.7	146.7	139.6	136.1	139.6	146.7	160.7
107.5°	401.3	298.0	241.7	207.7	186.6	172.5	165.4	161.9	165.4	172.5	186.6
110°	407.1	318.0	265.2	232.3	212.4	199.5	193.6	190.1	193.6	199.5	212.4





TEST NUMBER: P831350

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	418.9	337.9	289.8	258.1	238.2	225.3	219.4	215.9	219.4	225.3	238.2
115°	431.8	360.2	315.6	283.9	264.0	252.3	245.2	240.5	245.2	252.3	264.0
117.5°	448.2	383.7	339.1	309.8	287.5	276.9	271.0	265.2	271.0	276.9	287.5
120°	467.0	406.0	363.7	334.4	312.1	300.4	294.5	291.0	294.5	300.4	312.1
122.5°	484.6	429.4	388.4	356.7	335.6	322.7	316.8	313.3	316.8	322.7	335.6
125°	503.3	451.7	410.7	379.0	356.7	343.8	336.7	334.4	336.7	343.8	356.7
127.5°	518.6	471.7	431.8	400.1	375.5	362.6	354.3	350.8	354.3	362.6	375.5
130°	533.9	489.3	450.6	418.9	394.2	380.2	369.6	366.1	369.6	380.2	394.2
132.5°	547.9	504.5	467.0	436.5	411.8	394.2	382.5	377.8	382.5	394.2	411.8
135°	559.7	519.8	483.4	451.7	427.1	409.5	396.6	391.9	396.6	409.5	427.1
137.5°	569.1	530.3	495.1	465.8	441.2	422.4	409.5	404.8	409.5	422.4	441.2
140°	576.1	540.9	506.9	477.5	454.1	435.3	423.6	417.7	423.6	435.3	454.1
142.5°	583.1	549.1	516.3	489.3	465.8	449.4	436.5	431.8	436.5	449.4	465.8
145°	587.8	556.1	525.6	498.7	478.7	461.1	450.6	447.0	450.6	461.1	478.7
147.5°	591.3	562.0	533.9	510.4	490.4	475.2	464.6	462.3	464.6	475.2	490.4
150°	592.5	567.9	540.9	519.8	503.3	488.1	478.7	477.5	478.7	488.1	503.3
152.5°	594.9	571.4	549.1	529.2	515.1	502.2	492.8	492.8	492.8	502.2	515.1
155°	594.9	576.1	556.1	539.7	526.8	515.1	508.0	508.0	508.0	515.1	526.8
157.5°	596.0	578.4	562.0	549.1	537.4	526.8	520.9	519.8	520.9	526.8	537.4
160°	596.0	582.0	567.9	556.1	547.9	538.5	533.9	533.9	533.9	538.5	547.9
162.5°	594.9	583.1	571.4	562.0	555.0	547.9	544.4	544.4	544.4	547.9	555.0
165°	592.5	584.3	574.9	566.7	562.0	556.1	553.8	555.0	553.8	556.1	562.0
167.5°	591.3	584.3	577.3	571.4	567.9	563.2	562.0	563.2	562.0	563.2	567.9
170°	587.8	583.1	577.3	574.9	572.6	569.1	567.9	570.2	567.9	569.1	572.6
172.5°	586.7	583.1	578.4	577.3	576.1	573.7	573.7	574.9	573.7	573.7	576.1
175°	584.3	582.0	579.6	578.4	578.4	576.1	577.3	578.4	577.3	576.1	578.4
177.5°	583.1	580.8	579.6	579.6	579.6	578.4	579.6	580.8	579.6	578.4	579.6
180°	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6



TEST NUMBER: P831350

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5	991.5
2.5°	951.5	942.5	933.5	926.6	919.7	908.0	896.3	893.5	890.7	886.8	882.9
5°	902.3	880.2	858.1	838.3	818.5	803.1	787.7	777.6	767.4	760.1	752.7
7.5°	844.7	811.6	778.5	755.0	731.6	709.2	686.9	679.8	672.7	663.0	653.3
10°	789.1	752.5	715.9	685.3	654.7	632.9	611.0	602.3	593.5	581.3	569.1
12.5°	739.4	699.3	659.3	628.5	597.7	576.5	555.3	542.7	530.0	523.1	516.2
15°	687.4	644.6	601.8	573.3	544.8	525.7	506.6	495.5	484.5	477.8	471.1
17.5°	641.4	599.0	556.7	529.3	502.0	484.5	467.0	457.3	447.7	442.6	437.6
20°	597.7	556.3	514.8	488.2	461.5	447.2	433.0	426.7	420.5	416.4	412.2
22.5°	557.6	516.9	476.2	453.4	430.7	419.1	407.6	403.3	398.9	395.5	392.0
25°	517.6	481.3	444.9	425.6	406.3	396.8	387.4	383.0	378.7	375.2	371.8
27.5°	484.9	450.2	415.5	398.9	382.3	375.0	367.6	364.2	360.7	357.5	354.3
30°	453.2	422.1	391.1	376.8	362.6	355.9	349.2	345.8	342.3	339.3	336.3
32.5°	423.8	397.1	370.4	357.3	344.2	338.6	333.1	329.0	324.8	322.5	320.2
35°	395.7	371.8	347.8	337.0	326.2	320.7	315.2	311.7	308.3	306.4	304.6
37.5°	371.8	350.4	329.0	318.6	308.3	303.0	297.7	294.7	291.7	291.0	290.3
40°	347.4	329.0	310.6	300.4	290.3	285.7	281.1	279.3	277.4	277.0	276.5
42.5°	327.1	309.2	291.2	282.0	272.8	268.9	265.0	264.1	263.2	263.9	264.6
45°	303.7	288.7	273.8	265.2	256.7	253.5	250.3	249.6	248.9	250.3	251.7
47.5°	283.9	270.1	256.3	248.2	240.2	237.9	235.6	235.3	235.1	237.0	238.8
50°	263.6	250.3	237.0	230.5	224.1	222.0	219.9	220.6	221.3	224.3	227.3
52.5°	244.8	232.3	219.9	213.9	208.0	206.6	205.2	206.8	208.4	211.6	214.9
55°	224.1	212.8	201.5	196.9	192.3	190.9	189.6	192.8	196.0	199.0	202.0
57.5°	204.3	194.4	184.5	180.4	176.2	176.0	175.8	178.7	181.7	185.0	188.2
60°	183.1	174.8	166.6	163.3	160.1	160.6	161.0	164.5	167.9	170.5	173.0
62.5°	163.8	156.9	150.0	147.0	144.0	145.2	146.3	149.8	153.2	156.2	159.2
65°	144.5	138.7	133.0	130.9	128.8	130.4	132.0	135.0	138.0	140.1	142.2
67.5°	126.1	121.2	116.4	114.8	113.2	114.8	116.4	119.4	122.4	124.5	126.5
70°	106.7	102.8	98.9	97.8	96.6	98.5	100.3	102.8	105.4	107.4	109.5
72.5°	88.8	85.8	82.8	82.6	82.4	84.0	85.6	88.1	90.6	92.0	93.4
75°	71.3	69.7	68.1	67.9	67.6	69.2	70.9	72.2	73.6	74.8	75.9
77.5°	55.7	54.3	52.9	53.1	53.4	54.5	55.7	57.1	58.4	59.1	59.8
80°	39.6	39.1	38.6	39.1	39.6	40.5	41.4	42.3	43.2	43.7	44.2
82.5°	27.1	26.7	26.2	26.9	27.6	28.3	29.0	29.7	30.4	30.6	30.8
85°	15.6	16.3	17.0	17.0	17.0	17.3	17.5	17.7	17.9	17.7	17.5
87.5°	7.4	7.6	7.8	7.8	7.8	8.1	8.3	8.3	8.3	8.1	7.8
90°	12.9	15.3	18.8	22.3	25.8	29.3	28.2	29.3	30.5	31.7	34.0
92.5°	59.8	81.0	118.5	180.7	241.7	218.2	163.1	116.2	90.3	78.6	70.4
95°	106.8	152.5	252.3	427.1	619.5	695.8	564.4	422.4	286.3	224.1	181.9
97.5°	123.2	173.6	272.2	475.2	799.0	1070.1	1106.4	970.3	732.1	577.3	443.5
100°	140.8	186.6	268.7	442.3	750.9	1111.1	1342.3	1383.3	1288.3	1151.0	984.4
102.5°	160.7	201.8	273.4	414.2	680.5	1034.9	1354.0	1520.6	1540.6	1474.9	1384.5
105°	183.0	219.4	282.8	403.6	625.4	943.3	1280.1	1525.3	1642.6	1664.9	1634.4
107.5°	207.7	241.7	298.0	401.3	585.5	862.4	1174.5	1454.9	1639.1	1730.6	1762.3
110°	232.3	265.2	318.0	407.1	564.4	795.5	1075.9	1344.6	1560.5	1708.3	1790.5



TEST NUMBER: P831350

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	258.1	289.8	337.9	418.9	552.6	750.9	990.3	1235.5	1457.3	1627.4	1738.8
115°	283.9	315.6	360.2	431.8	551.5	721.6	924.6	1141.6	1345.8	1518.3	1646.2
117.5°	309.8	339.1	383.7	448.2	552.6	701.6	881.2	1068.9	1249.6	1408.0	1540.6
120°	334.4	363.7	406.0	467.0	557.3	688.7	848.3	1013.7	1172.1	1312.9	1431.4
122.5°	356.7	388.4	429.4	484.6	565.5	680.5	821.3	970.3	1110.0	1237.8	1345.8
125°	379.0	410.7	451.7	503.3	573.7	673.5	799.0	932.8	1060.7	1173.3	1267.2
127.5°	400.1	431.8	471.7	518.6	583.1	670.0	777.9	898.8	1014.9	1118.2	1205.0
130°	418.9	450.6	489.3	533.9	592.5	666.4	761.5	867.1	972.7	1067.7	1147.5
132.5°	436.5	467.0	504.5	547.9	599.6	665.3	746.2	837.7	932.8	1019.6	1094.7
135°	451.7	483.4	519.8	559.7	606.6	664.1	733.3	811.9	895.2	971.5	1038.4
137.5°	465.8	495.1	530.3	569.1	611.3	661.7	721.6	787.3	857.7	925.7	985.6
140°	477.5	506.9	540.9	576.1	616.0	660.6	711.0	766.2	826.0	882.3	932.8
142.5°	489.3	516.3	549.1	583.1	619.5	658.2	701.6	746.2	795.5	842.4	884.7
145°	498.7	525.6	556.1	587.8	620.7	655.9	693.4	731.0	769.7	807.2	841.3
147.5°	510.4	533.9	562.0	591.3	620.7	652.4	685.2	718.1	749.7	781.4	806.1
150°	519.8	540.9	567.9	592.5	620.7	647.7	677.0	704.0	731.0	755.6	777.9
152.5°	529.2	549.1	571.4	594.9	617.2	641.8	667.6	691.1	713.4	734.5	752.1
155°	539.7	556.1	576.1	594.9	614.8	634.8	658.2	678.2	696.9	714.5	728.6
157.5°	549.1	562.0	578.4	596.0	611.3	628.9	647.7	664.1	680.5	694.6	706.3
160°	556.1	567.9	582.0	596.0	608.9	621.9	637.1	652.4	665.3	677.0	685.2
162.5°	562.0	571.4	583.1	594.9	604.3	614.8	626.5	638.3	648.8	659.4	666.4
165°	566.7	574.9	584.3	592.5	599.6	607.8	617.2	626.5	633.6	641.8	647.7
167.5°	571.4	577.3	584.3	591.3	594.9	600.7	607.8	616.0	621.9	626.5	631.2
170°	574.9	577.3	583.1	587.8	590.2	593.7	599.6	605.4	608.9	613.6	616.0
172.5°	577.3	578.4	583.1	586.7	586.7	587.8	591.3	596.0	598.4	601.9	603.1
175°	578.4	579.6	582.0	584.3	583.1	583.1	585.5	587.8	589.0	591.3	591.3
177.5°	579.6	579.6	580.8	583.1	580.8	579.6	580.8	582.0	583.1	584.3	584.3
180°	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6	579.6



TEST NUMBER: P831350

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	991.5	991.5	991.5	991.5
2.5°	881.3	879.7	873.3	866.8
5°	747.2	741.7	739.8	738.0
7.5°	652.9	652.4	642.8	633.1
10°	569.8	570.5	561.8	553.0
12.5°	510.5	504.7	504.0	503.3
15°	465.8	460.6	459.6	458.7
17.5°	434.3	431.1	430.2	429.3
20°	410.4	408.6	407.0	405.3
22.5°	389.7	387.4	386.0	384.6
25°	369.7	367.6	367.2	366.7
27.5°	351.7	349.2	349.2	349.2
30°	334.7	333.1	332.4	331.7
32.5°	318.8	317.5	317.5	317.5
35°	303.9	303.2	302.3	301.4
37.5°	290.3	290.3	289.9	289.4
40°	277.2	277.9	277.9	277.9
42.5°	265.2	265.9	265.9	265.9
45°	252.8	254.0	254.4	254.9
47.5°	240.6	242.5	242.9	243.4
50°	228.7	230.0	230.3	230.5
52.5°	216.5	218.1	219.2	220.4
55°	203.6	205.2	205.9	206.6
57.5°	189.8	191.4	191.6	191.9
60°	174.6	176.2	176.7	177.1
62.5°	160.1	161.0	161.5	162.0
65°	143.6	144.9	145.9	146.8
67.5°	127.7	128.8	128.8	128.8
70°	110.0	110.4	111.1	111.8
72.5°	93.6	93.9	93.9	93.9
75°	76.4	76.8	77.1	77.3
77.5°	60.0	60.3	60.3	60.3
80°	43.9	43.7	43.7	43.7
82.5°	30.1	29.4	29.4	29.4
85°	17.3	17.0	17.3	17.5
87.5°	7.8	7.8	7.8	7.8
90°	32.9	34.0	35.2	34.0
92.5°	68.1	63.4	64.5	62.2
95°	159.6	149.0	140.8	136.1
97.5°	364.9	320.3	292.2	279.2
100°	865.9	780.3	734.5	735.7
102.5°	1298.9	1235.5	1199.1	1165.1
105°	1580.4	1535.9	1498.3	1492.5
107.5°	1755.3	1734.2	1718.9	1706.0
110°	1823.3	1832.7	1830.4	1828.0



TEST NUMBER: P831350

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	<i>1805.7</i>	<i>1839.7</i>	<i>1851.5</i>	<i>1852.7</i>
115°	1734.2	1785.8	1809.2	1815.1
117.5°	1632.1	1689.6	1724.8	1733.0
120°	1524.1	1589.8	1618.0	1625.0
122.5°	1425.6	1483.1	1514.7	1524.1
125°	1342.3	1393.9	1423.2	1431.4
127.5°	1273.0	1317.6	1344.6	1351.7
130°	1209.7	1251.9	1276.6	1285.9
132.5°	1152.2	1194.4	1215.5	1221.4
135°	1095.9	1131.1	1152.2	1160.4
137.5°	1034.9	1071.2	1088.8	1095.9
140°	977.4	1010.2	1029.0	1027.8
142.5°	921.0	949.2	965.6	964.5
145°	870.6	895.2	904.6	907.0
147.5°	829.5	847.1	856.5	857.7
150°	795.5	808.4	815.5	815.5
152.5°	765.0	776.7	780.3	780.3
155°	739.2	748.6	750.9	752.1
157.5°	715.7	722.8	725.1	725.1
160°	693.4	700.5	700.5	699.3
162.5°	671.1	677.0	677.0	675.8
165°	652.4	657.1	655.9	655.9
167.5°	633.6	637.1	635.9	635.9
170°	617.2	619.5	618.3	618.3
172.5°	603.1	605.4	603.1	601.9
175°	591.3	592.5	591.3	590.2
177.5°	583.1	584.3	582.0	582.0
180°	579.6	579.6	579.6	579.6



TEST NUMBER: P831350

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-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	9.10	9.77	10.24	10.89	12.46	11.34	12.00	12.47	13.13	14.70
	3H	10.73	11.33	11.88	12.47	14.05	12.75	13.34	13.89	14.48	16.06
	4H	11.30	11.87	12.46	13.00	14.59	13.19	13.76	14.34	14.89	16.48
	6H	11.66	12.19	12.83	13.32	14.92	13.45	13.98	14.62	15.11	16.71
	8H	11.75	12.25	12.92	13.40	15.00	13.51	14.01	14.68	15.16	16.75
	12H	11.79	12.26	12.96	13.41	15.03	13.52	14.00	14.69	15.14	16.76
4H	2H	9.65	10.22	10.81	11.35	12.94	11.48	12.05	12.64	13.18	14.77
	3H	11.46	11.94	12.63	13.10	14.70	13.08	13.55	14.25	14.71	16.31
	4H	12.15	12.59	13.32	13.74	15.36	13.65	14.09	14.82	15.24	16.86
	6H	12.62	12.99	13.79	14.16	15.77	14.05	14.42	15.22	15.59	17.20
	8H	12.75	13.10	13.93	14.26	15.89	14.16	14.51	15.33	15.67	17.30
	12H	12.81	13.13	14.00	14.30	15.93	14.19	14.51	15.38	15.68	17.31
8H	4H	12.41	12.75	13.58	13.92	15.54	13.75	14.09	14.92	15.26	16.88
	6H	12.99	13.27	14.18	14.48	16.10	14.24	14.53	15.43	15.73	17.36
	8H	13.19	13.44	14.39	14.63	16.27	14.42	14.67	15.62	15.85	17.50
	12H	13.31	13.53	14.51	14.71	16.39	14.51	14.73	15.72	15.91	17.59
12H	4H	12.40	12.71	13.59	13.89	15.52	13.71	14.03	14.90	15.20	16.83
	6H	13.04	13.29	14.24	14.47	16.12	14.26	14.50	15.45	15.69	17.33
	8H	13.26	13.48	14.46	14.66	16.34	14.45	14.66	15.65	15.85	17.52