

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: P831368

Luminaire Tested: S123DIP-S340D1195U950-4F0-1E-UDD-G4

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831368  
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-S340D1195U950-4F0-1E-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**

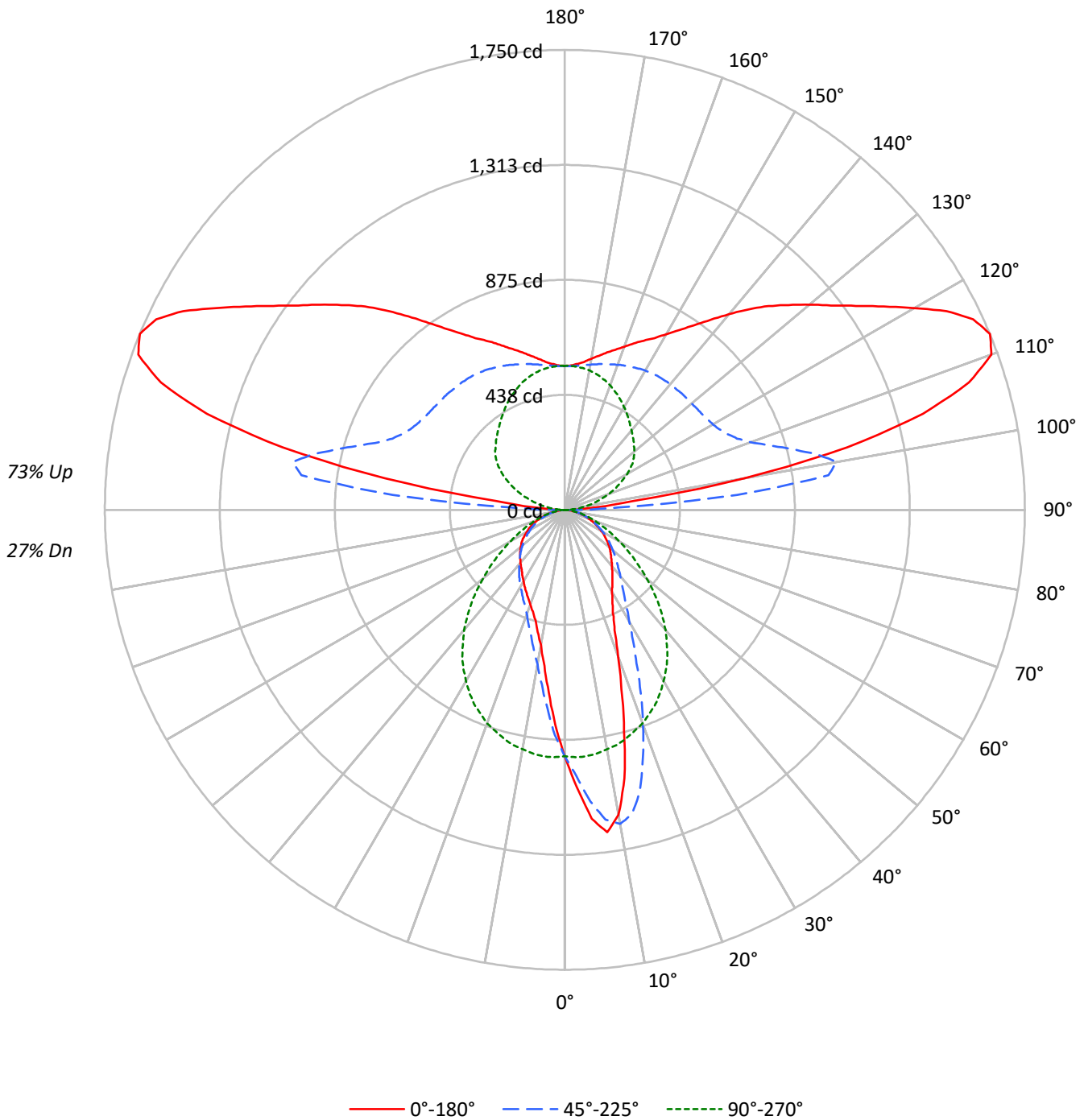
Lumens per Lamp: N/A  
Luminaire Lumens: 5627.5 lumens  
Efficiency: N/A  
Efficacy: 129.7 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: Semi-Indirect

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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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	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°	10083	10083	10083	10083	10083
5°	12751	12035	10172	8198	7533
10°	12874	13264	10105	6535	5710
15°	9697	12315	10036	5534	4829
20°	6756	9964	9907	4840	4386
25°	5152	7663	9689	4453	4114
30°	4457	6088	9340	4179	3895
35°	4135	5140	8938	3980	3741
40°	3915	4612	8373	3792	3688
45°	3784	4267	7655	3646	3666
50°	3719	3996	6805	3512	3647
55°	3581	3796	5971	3385	3663
60°	3453	3584	5147	3266	3602
65°	3245	3382	4439	3138	3533
70°	2996	3125	3777	2927	3323
75°	2712	2803	3236	2720	3036
80°	2238	2455	2560	2368	2560
85°	1766	1988	1877	2013	2038

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 8741 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.6	1.6
10°-20°	220.3	3.9
20°-30°	260.8	4.6
30°-40°	262.3	4.7
40°-50°	240.6	4.3
50°-60°	198.6	3.5
60°-70°	140.5	2.5
70°-80°	75.0	1.3
80°-90°	22.1	0.4
90°-100°	297.1	5.3
100°-110°	869.9	15.5
110°-120°	849.5	15.1
120°-130°	676.5	12.0
130°-140°	533.8	9.5
140°-150°	398.2	7.1
150°-160°	277.6	4.9
160°-170°	163.1	2.9
170°-180°	53.0	0.9
0°-30°	569.7	10.1
0°-40°	832.0	14.8
0°-60°	1271.2	22.6
0°-90°	1508.7	26.8
90°-120°	2016.5	35.8
90°-150°	3625.0	64.4
90°-180°	4119.0	73.2
0°-180°	5627.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	937	937	937	937	937	
5°	1180	1114	941	759	697	112
15°	870	1105	901	497	433	240
25°	434	645	816	375	346	205
35°	315	391	680	303	285	198
45°	249	280	503	240	241	193
55°	191	202	318	180	195	171
65°	127	133	174	123	139	127
75°	65	67	78	65	73	68
85°	14	16	15	16	16	16
90°	32	28	2	28	32	18
95°	129	657	38	657	129	209
105°	1410	891	129	891	1410	1407
115°	1715	682	227	682	1715	1672
125°	1352	636	316	636	1352	1224
135°	1096	627	370	627	1096	850
145°	857	620	422	620	857	544
155°	710	600	480	600	710	331
165°	620	574	524	574	620	177
175°	558	551	546	551	558	54
180°	548	548	548	548	548	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7
2.5°	1055.8	1054.7	1053.6	1048.1	1042.7	1040.1	1037.5	1029.7	1021.9	1013.2	1004.5
5°	1180.1	1183.1	1186.1	1182.7	1179.2	1168.5	1157.9	1143.8	1129.6	1113.8	1097.9
7.5°	1237.4	1239.2	1240.9	1238.7	1236.6	1233.7	1230.9	1218.3	1205.7	1189.4	1173.1
10°	1177.9	1181.8	1185.7	1194.2	1202.7	1212.2	1221.8	1220.1	1218.3	1213.5	1208.7
12.5°	1047.1	1051.8	1056.6	1073.6	1090.5	1112.3	1134.0	1152.7	1171.4	1184.4	1197.4
15°	870.2	883.4	896.7	912.1	927.5	959.5	991.4	1030.8	1070.1	1105.1	1140.1
17.5°	716.7	721.7	726.7	743.2	759.8	800.0	840.2	885.6	931.0	989.0	1047.1
20°	589.8	594.4	598.9	620.7	642.4	673.9	705.4	756.5	807.6	869.9	932.3
22.5°	495.5	502.7	509.8	522.0	534.2	564.4	594.6	640.0	685.4	754.3	823.2
25°	433.8	439.0	444.2	451.6	459.0	483.1	507.2	544.6	582.0	645.2	708.5
27.5°	391.6	393.8	396.0	403.4	410.7	426.4	442.0	474.2	506.4	560.0	613.7
30°	358.6	360.1	361.6	368.1	374.7	385.3	396.0	419.2	442.5	489.8	537.2
32.5°	335.5	336.6	337.7	342.7	347.7	355.3	362.9	379.9	396.8	435.9	475.1
35°	314.7	315.3	316.0	319.7	323.4	329.0	334.7	347.5	360.3	391.2	422.0
37.5°	296.4	297.3	298.2	300.3	302.5	307.5	312.5	322.7	332.9	356.6	380.3
40°	278.6	280.1	281.7	283.2	284.7	288.8	293.0	300.8	308.6	328.2	347.7
42.5°	263.4	264.9	266.4	267.1	267.7	270.1	272.5	279.7	286.9	301.4	316.0
45°	248.6	249.3	249.9	250.6	251.2	253.2	255.1	261.4	267.7	280.3	293.0
47.5°	235.1	235.1	235.1	235.6	236.0	237.8	239.5	244.1	248.6	258.4	268.2
50°	222.1	222.1	222.1	221.5	220.8	221.9	223.0	226.5	229.9	238.6	247.3
52.5°	206.5	206.5	206.5	206.7	206.9	206.9	206.9	209.9	213.0	220.8	228.6
55°	190.8	191.7	192.5	191.9	191.2	191.7	192.1	194.1	196.0	202.3	208.6
57.5°	175.2	175.6	176.0	175.8	175.6	175.8	176.0	177.8	179.5	184.3	189.1
60°	160.4	160.4	160.4	159.9	159.5	159.9	160.4	161.3	162.1	166.5	170.8
62.5°	143.9	144.1	144.3	144.5	144.7	144.3	143.9	145.0	146.0	149.3	152.6
65°	127.4	127.6	127.8	128.4	129.1	128.7	128.2	129.3	130.4	132.8	135.2
67.5°	112.6	112.1	111.7	111.9	112.1	112.8	113.4	113.7	113.9	116.5	119.1
70°	95.2	95.6	96.1	95.8	95.6	95.8	96.1	96.7	97.4	99.3	101.3
72.5°	79.5	79.8	80.0	80.0	80.0	80.4	80.8	81.5	82.1	83.2	84.3
75°	65.2	65.2	65.2	65.6	66.1	66.3	66.5	66.5	66.5	67.4	68.2
77.5°	49.5	50.6	51.7	51.5	51.3	51.7	52.2	52.8	53.5	53.9	54.3
80°	36.1	36.1	36.1	36.3	36.5	37.2	37.8	38.2	38.7	39.6	40.4
82.5°	23.0	23.3	23.5	24.1	24.8	25.2	25.6	26.3	26.9	26.9	26.9
85°	14.3	13.9	13.5	13.9	14.3	14.8	15.2	15.4	15.6	16.1	16.5
87.5°	7.0	7.0	7.0	7.0	7.0	7.2	7.4	7.4	7.4	7.4	7.4
90°	32.1	33.3	32.1	31.0	32.1	29.9	28.8	27.7	26.6	27.7	24.4
92.5°	58.7	61.0	59.9	64.3	66.5	74.3	85.3	109.7	154.1	206.2	228.3
95°	128.6	133.0	140.8	150.7	171.8	211.7	270.5	399.0	533.1	657.3	585.2
97.5°	263.8	276.0	302.6	344.7	419.0	545.3	691.6	916.6	1045.2	1010.9	754.8
100°	695.0	693.9	737.1	818.0	929.9	1087.3	1217.0	1306.8	1268.0	1049.7	709.4
102.5°	1100.6	1132.8	1167.1	1227.0	1307.9	1393.3	1455.3	1436.5	1279.1	977.6	642.9
105°	1409.9	1415.4	1450.9	1493.0	1544.0	1572.8	1551.8	1440.9	1209.3	891.2	590.8
107.5°	1611.6	1623.8	1638.2	1658.2	1664.8	1634.9	1548.4	1374.4	1109.5	814.7	553.1
110°	1726.9	1729.1	1731.3	1722.5	1691.4	1613.8	1474.2	1270.2	1016.4	751.5	533.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1750.2	1749.1	1738.0	1705.8	1642.7	1537.4	1376.6	1167.1	935.5	709.4	522.1
115°	1714.7	1709.2	1687.0	1638.2	1555.1	1434.3	1271.3	1078.5	873.4	681.7	520.9
117.5°	1637.1	1629.4	1596.1	1541.8	1455.3	1330.1	1180.4	1009.8	832.4	662.8	522.1
120°	1535.1	1528.5	1501.9	1439.8	1352.3	1240.3	1107.3	957.7	801.4	650.6	526.5
122.5°	1439.8	1430.9	1401.0	1346.7	1271.3	1169.4	1048.5	916.6	775.9	642.9	534.3
125°	1352.3	1344.5	1316.8	1268.0	1197.1	1108.4	1002.0	881.2	754.8	636.2	542.0
127.5°	1276.9	1270.2	1244.7	1202.6	1138.3	1056.3	958.8	849.0	734.9	632.9	550.9
130°	1214.8	1205.9	1182.7	1142.8	1084.0	1008.6	918.9	819.1	719.4	629.6	559.7
132.5°	1153.8	1148.3	1128.4	1088.5	1034.1	963.2	881.2	791.4	704.9	628.5	566.4
135°	1096.2	1088.5	1068.5	1035.2	980.9	917.8	845.7	767.0	692.8	627.4	573.0
137.5°	1035.2	1028.6	1012.0	977.6	931.1	874.5	810.2	743.7	681.7	625.1	577.5
140°	971.0	972.1	954.3	923.3	881.2	833.5	780.3	723.8	671.7	624.0	581.9
142.5°	911.1	912.2	896.7	870.1	835.7	795.8	751.5	704.9	662.8	621.8	585.2
145°	856.8	854.6	845.7	822.4	794.7	762.6	727.1	690.5	655.1	619.6	586.3
147.5°	810.2	809.1	800.3	783.6	761.5	738.2	708.3	678.3	647.3	616.3	586.3
150°	770.3	770.3	763.7	751.5	734.9	713.8	690.5	665.0	639.5	611.8	586.3
152.5°	737.1	737.1	733.8	722.7	710.5	693.9	673.9	652.8	630.7	606.3	583.0
155°	710.5	709.4	707.2	698.3	688.3	675.0	658.4	640.7	621.8	599.6	580.8
157.5°	685.0	685.0	682.8	676.1	667.3	656.2	642.9	627.4	611.8	594.1	577.5
160°	660.6	661.7	661.7	655.1	647.3	639.5	628.5	616.3	601.9	587.5	575.3
162.5°	638.4	639.5	639.5	634.0	629.6	622.9	612.9	603.0	591.9	580.8	570.8
165°	619.6	619.6	620.7	616.3	611.8	606.3	598.5	591.9	583.0	574.2	566.4
167.5°	600.8	600.8	601.9	598.5	596.3	591.9	587.5	581.9	574.2	567.5	562.0
170°	584.1	584.1	585.2	583.0	581.9	579.7	575.3	571.9	566.4	560.9	557.5
172.5°	568.6	569.7	571.9	569.7	569.7	568.6	565.3	563.1	558.6	555.3	554.2
175°	557.5	558.6	559.7	558.6	558.6	558.6	556.4	555.3	553.1	550.9	550.9
177.5°	549.8	549.8	552.0	550.9	552.0	552.0	550.9	549.8	548.7	547.6	548.7
180°	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7
2.5°	1001.9	999.3	989.7	980.1	969.3	958.4	950.4	942.3	930.4	918.4	908.6
5°	1085.7	1073.6	1053.4	1033.2	1005.8	978.4	959.9	941.4	916.7	891.9	872.1
7.5°	1152.2	1131.4	1103.1	1074.9	1039.0	1003.2	969.3	935.4	897.5	859.7	828.9
10°	1194.6	1180.5	1147.9	1115.3	1067.3	1019.2	971.9	924.5	875.8	827.1	786.3
12.5°	1198.8	1200.1	1170.1	1140.1	1085.7	1031.4	973.8	916.2	854.9	793.7	746.1
15°	1162.5	1184.8	1168.3	1151.8	1097.0	1042.3	971.4	900.6	830.0	759.3	704.3
17.5°	1095.1	1143.1	1145.5	1147.9	1093.1	1038.4	959.9	881.5	801.5	721.5	663.7
20°	1003.2	1074.0	1098.3	1122.7	1078.1	1033.6	949.3	864.9	775.4	685.9	625.2
22.5°	909.3	995.3	1039.9	1084.4	1051.4	1018.4	928.6	838.9	744.3	649.8	588.3
25°	802.4	896.2	964.7	1033.2	1012.9	992.7	904.3	815.8	715.2	614.6	551.8
27.5°	709.1	804.5	887.1	969.7	965.3	961.0	873.2	785.4	682.4	579.4	518.7
30°	626.1	715.0	807.4	899.7	910.4	921.0	836.3	751.5	648.3	545.0	486.6
32.5°	552.7	630.2	729.3	828.4	849.3	870.2	793.7	717.2	615.0	512.9	456.6
35°	492.5	562.9	662.0	761.1	787.1	813.2	746.7	680.2	580.7	481.2	427.5
37.5°	439.2	498.1	594.8	691.5	723.5	755.4	695.9	636.3	543.1	449.9	400.5
40°	395.1	442.5	531.4	620.2	657.2	694.1	645.0	595.9	507.4	419.0	373.6
42.5°	358.1	400.3	480.9	561.6	597.0	632.4	590.9	549.4	470.7	392.1	350.5
45°	326.6	360.3	433.6	506.8	540.5	574.2	538.5	502.9	433.6	364.2	325.5
47.5°	297.1	326.0	388.6	451.2	481.2	511.1	483.3	455.5	396.8	338.2	303.2
50°	270.6	293.8	348.6	403.4	429.4	455.5	431.0	406.4	358.1	309.9	279.5
52.5°	247.5	266.4	312.3	358.1	380.5	402.9	381.8	360.8	322.5	284.3	257.7
55°	224.7	240.8	280.6	320.3	335.5	350.8	334.5	318.2	287.3	256.4	234.1
57.5°	203.4	217.8	250.4	283.0	294.7	306.4	291.6	276.9	253.6	230.4	211.7
60°	182.6	194.3	221.5	248.6	255.8	263.0	251.0	239.1	222.8	206.5	189.7
62.5°	163.2	173.9	194.1	214.3	219.1	223.8	214.7	205.6	193.2	180.8	167.8
65°	143.2	151.3	167.8	184.3	187.3	190.4	182.3	174.3	164.9	155.6	146.0
67.5°	124.7	130.4	143.9	157.3	157.6	157.8	151.3	144.7	139.5	134.3	126.7
70°	106.7	112.1	121.0	130.0	130.2	130.4	125.2	120.0	116.1	112.1	106.5
72.5°	88.2	92.1	98.9	105.6	105.2	104.7	101.5	98.2	95.2	92.1	88.0
75°	71.5	74.8	79.3	83.9	82.6	81.3	79.5	77.8	75.2	72.6	70.0
77.5°	56.3	58.2	60.9	63.5	62.6	61.7	60.2	58.7	56.7	54.8	53.7
80°	41.3	42.2	43.9	45.6	45.2	44.8	43.0	41.3	40.9	40.4	38.9
82.5°	28.0	29.1	29.6	30.0	29.8	29.6	28.3	26.9	26.5	26.1	25.9
85°	16.7	17.0	17.2	17.4	16.7	16.1	15.6	15.2	15.2	15.2	15.0
87.5°	7.6	7.8	7.8	7.8	7.6	7.4	7.0	6.5	6.7	7.0	7.0
90°	21.1	17.7	14.4	12.2	10.0	6.7	4.4	2.2	4.4	6.7	10.0
92.5°	170.7	111.9	76.5	56.5	45.4	35.5	24.4	16.6	24.4	35.5	45.4
95°	403.5	238.3	144.1	100.9	72.0	53.2	41.0	37.7	41.0	53.2	72.0
97.5°	448.9	257.1	164.0	116.4	87.6	70.9	61.0	59.9	61.0	70.9	87.6
100°	417.9	253.8	176.2	133.0	106.4	90.9	83.1	82.0	83.1	90.9	106.4
102.5°	391.3	258.3	190.6	151.9	128.6	114.2	107.5	105.3	107.5	114.2	128.6
105°	381.3	267.1	207.3	172.9	151.9	138.6	131.9	128.6	131.9	138.6	151.9
107.5°	379.1	281.5	228.3	196.2	176.2	162.9	156.3	153.0	156.3	162.9	176.2
110°	384.6	300.4	250.5	219.5	200.6	188.4	182.9	179.6	182.9	188.4	200.6





TEST NUMBER: P831368

CATALOG NUMBER: S123DIP-S340D1195U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	395.7	319.2	273.8	243.8	225.0	212.8	207.3	203.9	207.3	212.8	225.0
115°	407.9	340.3	298.2	268.2	249.4	238.3	231.7	227.2	231.7	238.3	249.4
117.5°	423.4	362.4	320.3	292.6	271.6	261.6	256.0	250.5	256.0	261.6	271.6
120°	441.1	383.5	343.6	315.9	294.8	283.8	278.2	274.9	278.2	283.8	294.8
122.5°	457.8	405.7	366.9	337.0	317.0	304.8	299.3	295.9	299.3	304.8	317.0
125°	475.5	426.7	387.9	358.0	337.0	324.8	318.1	315.9	318.1	324.8	337.0
127.5°	489.9	445.6	407.9	378.0	354.7	342.5	334.7	331.4	334.7	342.5	354.7
130°	504.3	462.2	425.6	395.7	372.4	359.1	349.1	345.8	349.1	359.1	372.4
132.5°	517.6	476.6	441.1	412.3	389.0	372.4	361.3	356.9	361.3	372.4	389.0
135°	528.7	491.0	456.7	426.7	403.5	386.8	374.6	370.2	374.6	386.8	403.5
137.5°	537.6	501.0	467.7	440.0	416.8	399.0	386.8	382.4	386.8	399.0	416.8
140°	544.2	511.0	478.8	451.1	429.0	411.2	400.1	394.6	400.1	411.2	429.0
142.5°	550.9	518.7	487.7	462.2	440.0	424.5	412.3	407.9	412.3	424.5	440.0
145°	555.3	525.4	496.6	471.1	452.2	435.6	425.6	422.3	425.6	435.6	452.2
147.5°	558.6	530.9	504.3	482.2	463.3	448.9	438.9	436.7	438.9	448.9	463.3
150°	559.7	536.5	511.0	491.0	475.5	461.1	452.2	451.1	452.2	461.1	475.5
152.5°	562.0	539.8	518.7	499.9	486.6	474.4	465.5	465.5	465.5	474.4	486.6
155°	562.0	544.2	525.4	509.9	497.7	486.6	479.9	479.9	479.9	486.6	497.7
157.5°	563.1	546.4	530.9	518.7	507.6	497.7	492.1	491.0	492.1	497.7	507.6
160°	563.1	549.8	536.5	525.4	517.6	508.8	504.3	504.3	504.3	508.8	517.6
162.5°	562.0	550.9	539.8	530.9	524.3	517.6	514.3	514.3	514.3	517.6	524.3
165°	559.7	552.0	543.1	535.4	530.9	525.4	523.2	524.3	523.2	525.4	530.9
167.5°	558.6	552.0	545.3	539.8	536.5	532.0	530.9	532.0	530.9	532.0	536.5
170°	555.3	550.9	545.3	543.1	540.9	537.6	536.5	538.7	536.5	537.6	540.9
172.5°	554.2	550.9	546.4	545.3	544.2	542.0	542.0	543.1	542.0	542.0	544.2
175°	552.0	549.8	547.6	546.4	546.4	544.2	545.3	546.4	545.3	544.2	546.4
177.5°	550.9	548.7	547.6	547.6	547.6	546.4	547.6	548.7	547.6	546.4	547.6
180°	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6



TEST NUMBER: P831368

CATALOG NUMBER: S123DIP-S340D1195U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7	936.7
2.5°	898.8	890.4	881.9	875.4	868.9	857.8	846.7	844.1	841.5	837.8	834.1
5°	852.3	831.5	810.6	791.9	773.2	758.7	744.1	734.6	725.0	718.0	711.1
7.5°	798.0	766.7	735.4	713.3	691.1	670.0	648.9	642.2	635.5	626.3	617.2
10°	745.4	710.9	676.3	647.4	618.5	597.9	577.2	569.0	560.7	549.2	537.7
12.5°	698.5	660.7	622.8	593.7	564.6	544.6	524.6	512.7	500.7	494.2	487.7
15°	649.4	608.9	568.5	541.6	514.6	496.6	478.5	468.1	457.7	451.4	445.1
17.5°	605.9	565.9	525.9	500.1	474.2	457.7	441.2	432.0	422.9	418.1	413.3
20°	564.6	525.5	486.4	461.2	435.9	422.5	409.0	403.1	397.3	393.4	389.4
22.5°	526.8	488.3	449.9	428.3	406.8	396.0	385.1	381.0	376.8	373.6	370.3
25°	489.0	454.6	420.3	402.0	383.8	374.9	366.0	361.8	357.7	354.5	351.2
27.5°	458.1	425.3	392.5	376.8	361.2	354.2	347.3	344.0	340.8	337.7	334.7
30°	428.1	398.8	369.4	356.0	342.5	336.2	329.9	326.6	323.4	320.6	317.7
32.5°	400.3	375.1	349.9	337.5	325.1	319.9	314.7	310.8	306.9	304.7	302.5
35°	373.8	351.2	328.6	318.4	308.2	302.9	297.7	294.5	291.2	289.5	287.7
37.5°	351.2	331.0	310.8	301.0	291.2	286.2	281.2	278.4	275.6	274.9	274.3
40°	328.2	310.8	293.4	283.8	274.3	269.9	265.6	263.8	262.1	261.7	261.2
42.5°	309.0	292.1	275.1	266.4	257.7	254.1	250.4	249.5	248.6	249.3	249.9
45°	286.9	272.7	258.6	250.6	242.5	239.5	236.4	235.8	235.1	236.4	237.8
47.5°	268.2	255.1	242.1	234.5	226.9	224.7	222.5	222.3	222.1	223.8	225.6
50°	249.1	236.4	223.8	217.8	211.7	209.7	207.8	208.4	209.1	211.9	214.7
52.5°	231.2	219.5	207.8	202.1	196.5	195.2	193.9	195.4	196.9	199.9	203.0
55°	211.7	201.0	190.4	186.0	181.7	180.4	179.1	182.1	185.2	188.0	190.8
57.5°	193.0	183.6	174.3	170.4	166.5	166.3	166.0	168.9	171.7	174.7	177.8
60°	173.0	165.2	157.3	154.3	151.3	151.7	152.1	155.4	158.6	161.0	163.4
62.5°	154.7	148.2	141.7	138.9	136.0	137.1	138.2	141.5	144.7	147.6	150.4
65°	136.5	131.0	125.6	123.7	121.7	123.2	124.7	127.6	130.4	132.3	134.3
67.5°	119.1	114.5	110.0	108.4	106.9	108.4	110.0	112.8	115.6	117.6	119.5
70°	100.8	97.1	93.4	92.4	91.3	93.0	94.8	97.1	99.5	101.5	103.4
72.5°	83.9	81.1	78.2	78.0	77.8	79.3	80.8	83.2	85.6	86.9	88.2
75°	67.4	65.8	64.3	64.1	63.9	65.4	66.9	68.2	69.5	70.6	71.7
77.5°	52.6	51.3	50.0	50.2	50.4	51.5	52.6	53.9	55.2	55.9	56.5
80°	37.4	36.9	36.5	36.9	37.4	38.2	39.1	40.0	40.9	41.3	41.7
82.5°	25.6	25.2	24.8	25.4	26.1	26.7	27.4	28.0	28.7	28.9	29.1
85°	14.8	15.4	16.1	16.1	16.1	16.3	16.5	16.7	17.0	16.7	16.5
87.5°	7.0	7.2	7.4	7.4	7.4	7.6	7.8	7.8	7.8	7.6	7.4
90°	12.2	14.4	17.7	21.1	24.4	27.7	26.6	27.7	28.8	29.9	32.1
92.5°	56.5	76.5	111.9	170.7	228.3	206.2	154.1	109.7	85.3	74.3	66.5
95°	100.9	144.1	238.3	403.5	585.2	657.3	533.1	399.0	270.5	211.7	171.8
97.5°	116.4	164.0	257.1	448.9	754.8	1010.9	1045.2	916.6	691.6	545.3	419.0
100°	133.0	176.2	253.8	417.9	709.4	1049.7	1268.0	1306.8	1217.0	1087.3	929.9
102.5°	151.9	190.6	258.3	391.3	642.9	977.6	1279.1	1436.5	1455.3	1393.3	1307.9
105°	172.9	207.3	267.1	381.3	590.8	891.2	1209.3	1440.9	1551.8	1572.8	1544.0
107.5°	196.2	228.3	281.5	379.1	553.1	814.7	1109.5	1374.4	1548.4	1634.9	1664.8
110°	219.5	250.5	300.4	384.6	533.1	751.5	1016.4	1270.2	1474.2	1613.8	1691.4



TEST NUMBER: P831368

CATALOG NUMBER: S123DIP-S340D1195U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	243.8	273.8	319.2	395.7	522.1	709.4	935.5	1167.1	1376.6	1537.4	1642.7
115°	268.2	298.2	340.3	407.9	520.9	681.7	873.4	1078.5	1271.3	1434.3	1555.1
117.5°	292.6	320.3	362.4	423.4	522.1	662.8	832.4	1009.8	1180.4	1330.1	1455.3
120°	315.9	343.6	383.5	441.1	526.5	650.6	801.4	957.7	1107.3	1240.3	1352.3
122.5°	337.0	366.9	405.7	457.8	534.3	642.9	775.9	916.6	1048.5	1169.4	1271.3
125°	358.0	387.9	426.7	475.5	542.0	636.2	754.8	881.2	1002.0	1108.4	1197.1
127.5°	378.0	407.9	445.6	489.9	550.9	632.9	734.9	849.0	958.8	1056.3	1138.3
130°	395.7	425.6	462.2	504.3	559.7	629.6	719.4	819.1	918.9	1008.6	1084.0
132.5°	412.3	441.1	476.6	517.6	566.4	628.5	704.9	791.4	881.2	963.2	1034.1
135°	426.7	456.7	491.0	528.7	573.0	627.4	692.8	767.0	845.7	917.8	980.9
137.5°	440.0	467.7	501.0	537.6	577.5	625.1	681.7	743.7	810.2	874.5	931.1
140°	451.1	478.8	511.0	544.2	581.9	624.0	671.7	723.8	780.3	833.5	881.2
142.5°	462.2	487.7	518.7	550.9	585.2	621.8	662.8	704.9	751.5	795.8	835.7
145°	471.1	496.6	525.4	555.3	586.3	619.6	655.1	690.5	727.1	762.6	794.7
147.5°	482.2	504.3	530.9	558.6	586.3	616.3	647.3	678.3	708.3	738.2	761.5
150°	491.0	511.0	536.5	559.7	586.3	611.8	639.5	665.0	690.5	713.8	734.9
152.5°	499.9	518.7	539.8	562.0	583.0	606.3	630.7	652.8	673.9	693.9	710.5
155°	509.9	525.4	544.2	562.0	580.8	599.6	621.8	640.7	658.4	675.0	688.3
157.5°	518.7	530.9	546.4	563.1	577.5	594.1	611.8	627.4	642.9	656.2	667.3
160°	525.4	536.5	549.8	563.1	575.3	587.5	601.9	616.3	628.5	639.5	647.3
162.5°	530.9	539.8	550.9	562.0	570.8	580.8	591.9	603.0	612.9	622.9	629.6
165°	535.4	543.1	552.0	559.7	566.4	574.2	583.0	591.9	598.5	606.3	611.8
167.5°	539.8	545.3	552.0	558.6	562.0	567.5	574.2	581.9	587.5	591.9	596.3
170°	543.1	545.3	550.9	555.3	557.5	560.9	566.4	571.9	575.3	579.7	581.9
172.5°	545.3	546.4	550.9	554.2	554.2	555.3	558.6	563.1	565.3	568.6	569.7
175°	546.4	547.6	549.8	552.0	550.9	550.9	553.1	555.3	556.4	558.6	558.6
177.5°	547.6	547.6	548.7	550.9	548.7	547.6	548.7	549.8	550.9	552.0	552.0
180°	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6	547.6



TEST NUMBER: P831368

CATALOG NUMBER: S123DIP-S340D1195U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	936.7	936.7	936.7	936.7
2.5°	832.6	831.0	825.0	818.9
5°	705.9	700.6	698.9	697.2
7.5°	616.8	616.3	607.2	598.1
10°	538.3	539.0	530.7	522.4
12.5°	482.2	476.8	476.2	475.5
15°	440.1	435.1	434.2	433.3
17.5°	410.3	407.3	406.4	405.5
20°	387.7	386.0	384.4	382.9
22.5°	368.1	366.0	364.7	363.4
25°	349.2	347.3	346.8	346.4
27.5°	332.3	329.9	329.9	329.9
30°	316.2	314.7	314.0	313.4
32.5°	301.2	299.9	299.9	299.9
35°	287.1	286.4	285.6	284.7
37.5°	274.3	274.3	273.8	273.4
40°	261.9	262.5	262.5	262.5
42.5°	250.6	251.2	251.2	251.2
45°	238.8	239.9	240.4	240.8
47.5°	227.3	229.1	229.5	229.9
50°	216.0	217.3	217.5	217.8
52.5°	204.5	206.0	207.1	208.2
55°	192.3	193.9	194.5	195.2
57.5°	179.3	180.8	181.0	181.2
60°	164.9	166.5	166.9	167.3
62.5°	151.3	152.1	152.6	153.0
65°	135.6	136.9	137.8	138.7
67.5°	120.6	121.7	121.7	121.7
70°	103.9	104.3	105.0	105.6
72.5°	88.5	88.7	88.7	88.7
75°	72.2	72.6	72.8	73.0
77.5°	56.7	56.9	56.9	56.9
80°	41.5	41.3	41.3	41.3
82.5°	28.5	27.8	27.8	27.8
85°	16.3	16.1	16.3	16.5
87.5°	7.4	7.4	7.4	7.4
90°	31.0	32.1	33.3	32.1
92.5°	64.3	59.9	61.0	58.7
95°	150.7	140.8	133.0	128.6
97.5°	344.7	302.6	276.0	263.8
100°	818.0	737.1	693.9	695.0
102.5°	1227.0	1167.1	1132.8	1100.6
105°	1493.0	1450.9	1415.4	1409.9
107.5°	1658.2	1638.2	1623.8	1611.6
110°	1722.5	1731.3	1729.1	1726.9



TEST NUMBER: P831368

CATALOG NUMBER: S123DIP-S340D1195U950-4F0-1E-UDD-G4

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	1705.8	1738.0	1749.1	1750.2
115°	1638.2	1687.0	1709.2	1714.7
117.5°	1541.8	1596.1	1629.4	1637.1
120°	1439.8	1501.9	1528.5	1535.1
122.5°	1346.7	1401.0	1430.9	1439.8
125°	1268.0	1316.8	1344.5	1352.3
127.5°	1202.6	1244.7	1270.2	1276.9
130°	1142.8	1182.7	1205.9	1214.8
132.5°	1088.5	1128.4	1148.3	1153.8
135°	1035.2	1068.5	1088.5	1096.2
137.5°	977.6	1012.0	1028.6	1035.2
140°	923.3	954.3	972.1	971.0
142.5°	870.1	896.7	912.2	911.1
145°	822.4	845.7	854.6	856.8
147.5°	783.6	800.3	809.1	810.2
150°	751.5	763.7	770.3	770.3
152.5°	722.7	733.8	737.1	737.1
155°	698.3	707.2	709.4	710.5
157.5°	676.1	682.8	685.0	685.0
160°	655.1	661.7	661.7	660.6
162.5°	634.0	639.5	639.5	638.4
165°	616.3	620.7	619.6	619.6
167.5°	598.5	601.9	600.8	600.8
170°	583.0	585.2	584.1	584.1
172.5°	569.7	571.9	569.7	568.6
175°	558.6	559.7	558.6	557.5
177.5°	550.9	552.0	549.8	549.8
180°	547.6	547.6	547.6	547.6



TEST NUMBER: P831368

CATALOG NUMBER: S123DIP-S340D1195U950-4F0-1E-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	8.90	9.57	10.04	10.69	12.27	11.14	11.81	12.28	12.93	14.50
	3H	10.53	11.13	11.68	12.27	13.85	12.55	13.15	13.69	14.28	15.87
	4H	11.10	11.67	12.26	12.80	14.39	12.99	13.56	14.15	14.69	16.28
	6H	11.46	11.99	12.63	13.12	14.72	13.26	13.78	14.42	14.92	16.52
	8H	11.55	12.05	12.72	13.20	14.80	13.31	13.81	14.48	14.96	16.56
	12H	11.59	12.06	12.76	13.21	14.83	13.33	13.80	14.50	14.94	16.56
4H	2H	9.45	10.02	10.62	11.16	12.75	11.28	11.85	12.44	12.98	14.57
	3H	11.27	11.74	12.43	12.90	14.50	12.88	13.35	14.05	14.51	16.12
	4H	11.96	12.39	13.12	13.54	15.16	13.46	13.89	14.63	15.04	16.66
	6H	12.42	12.79	13.60	13.96	15.58	13.85	14.22	15.03	15.40	17.01
	8H	12.55	12.90	13.73	14.06	15.69	13.96	14.31	15.13	15.47	17.10
	12H	12.61	12.93	13.80	14.10	15.73	14.00	14.31	15.18	15.48	17.12
8H	4H	12.21	12.56	13.38	13.72	15.35	13.55	13.90	14.72	15.06	16.69
	6H	12.79	13.08	13.98	14.28	15.91	14.04	14.33	15.24	15.54	17.16
	8H	13.00	13.25	14.19	14.43	16.07	14.22	14.47	15.42	15.65	17.30
	12H	13.11	13.33	14.31	14.51	16.19	14.32	14.54	15.52	15.72	17.39
12H	4H	12.20	12.52	13.39	13.69	15.32	13.51	13.83	14.70	15.00	16.64
	6H	12.84	13.09	14.04	14.27	15.92	14.06	14.31	15.26	15.49	17.13
	8H	13.07	13.28	14.27	14.46	16.14	14.25	14.47	15.45	15.65	17.32