

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: P831348

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

Issue Date: 05/03/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P831348  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1, G3-1807-864-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 05/03/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D1195U840-4F0-1E-UDD-G  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, GRAZE OPTIC  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: -

**Summary**

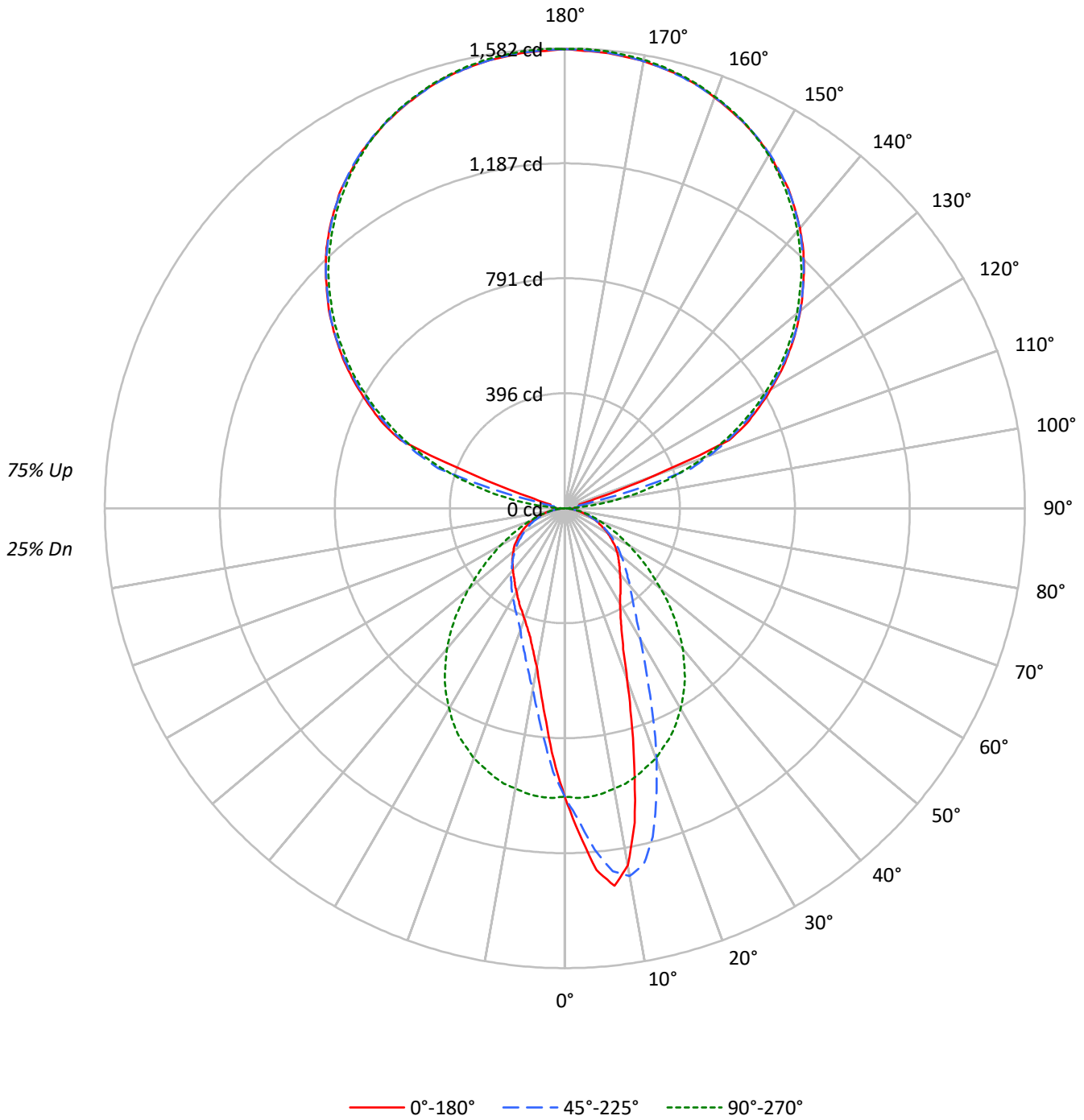
Lumens per Lamp: N/A  
Luminaire Lumens: 6411.2 lumens  
Efficiency: N/A  
Efficacy: 147.7 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
CIE Type: Semi-Indirect

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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33	25				
1	92	88	85	81	82	79	76	73	61	59	57	45	43	42	30	29	28	21				
2	84	77	72	67	75	69	64	60	54	51	48	40	37	36	26	25	24	18				
3	77	68	61	56	68	61	55	51	48	44	40	35	33	31	24	22	21	16				
4	71	60	53	47	63	54	48	43	42	38	35	31	29	26	21	20	18	14				
5	65	54	46	41	58	48	42	37	38	33	30	28	25	23	19	18	16	12				
6	60	48	41	35	53	44	37	32	34	30	26	26	23	20	18	16	14	11				
7	55	44	36	31	49	39	33	28	31	26	23	23	20	18	16	14	13	10				
8	51	40	32	27	46	36	29	25	28	24	21	21	18	16	15	13	12	9				
9	48	36	29	24	42	33	27	22	26	22	18	20	17	15	14	12	11	8				
10	44	33	26	22	40	30	24	20	24	20	17	18	15	13	13	11	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	1.5
10°-20°	233.2	3.6
20°-30°	276.1	4.3
30°-40°	277.6	4.3
40°-50°	254.7	4.0
50°-60°	210.2	3.3
60°-70°	148.7	2.3
70°-80°	79.4	1.2
80°-90°	23.3	0.4
90°-100°	55.7	0.9
100°-110°	269.2	4.2
110°-120°	659.8	10.3
120°-130°	837.6	13.1
130°-140°	894.8	14.0
140°-150°	836.7	13.1
150°-160°	674.9	10.5
160°-170°	435.5	6.8
170°-180°	150.1	2.3
0°-30°	603.1	9.4
0°-40°	880.7	13.7
0°-60°	1345.6	21.0
0°-90°	1597.0	24.9
90°-120°	984.6	15.4
90°-150°	3553.7	55.4
90°-180°	4814.0	75.1
0°-180°	6411.2	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°	35	28	1	28	35	16
95°	45	36	72	36	45	37
105°	52	257	350	257	52	108
115°	690	674	656	674	690	649
125°	943	939	924	939	943	843
135°	1163	1163	1151	1163	1163	897
145°	1341	1339	1328	1339	1341	837
155°	1461	1462	1463	1462	1461	674
165°	1539	1538	1543	1538	1539	435
175°	1573	1574	1579	1574	1573	150
180°	1579	1579	1579	1579	1579	



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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°	35.2	34.7	34.2	33.6	33.1	32.3	31.3	30.2	29.2	28.2	24.8
92.5°	39.9	39.6	39.4	39.1	38.8	37.8	36.0	34.2	32.3	30.5	28.2
95°	44.6	44.6	44.6	44.6	44.6	43.7	41.8	40.0	38.2	36.4	33.5
97.5°	48.1	47.8	47.6	47.3	47.1	45.9	43.8	41.7	39.6	37.5	50.8
100°	49.3	49.0	48.8	48.5	48.2	47.1	45.0	42.9	40.8	38.7	79.4
102.5°	50.5	49.9	49.4	48.9	48.4	52.4	61.0	69.6	78.2	86.8	132.2
105°	51.6	51.1	50.6	50.1	49.5	72.4	118.5	164.6	210.8	256.9	280.4
107.5°	122.0	156.2	190.3	224.5	258.6	295.8	335.9	376.1	416.3	456.4	452.5
110°	322.6	359.9	397.2	434.5	471.8	494.7	503.3	511.9	520.5	529.1	526.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	611.3	611.8	612.3	612.8	613.4	612.4	610.1	607.8	605.4	603.1	600.2
115°	689.9	688.8	687.8	686.8	685.7	683.9	681.3	678.7	676.1	673.5	671.1
117.5°	753.2	753.0	752.7	752.5	752.2	751.0	748.9	746.9	744.8	742.7	741.4
120°	818.9	818.9	818.9	818.9	818.9	817.9	815.8	813.7	811.6	809.6	808.8
122.5°	883.5	883.2	883.0	882.7	882.4	881.6	880.3	879.0	877.7	876.4	875.4
125°	943.3	942.8	942.3	941.7	941.2	940.7	940.2	939.7	939.1	938.6	937.6
127.5°	1002.0	1002.5	1003.0	1003.5	1004.1	1003.9	1003.1	1002.4	1001.6	1000.8	999.5
130°	1058.3	1058.8	1059.3	1059.9	1060.4	1060.1	1059.1	1058.0	1057.0	1055.9	1054.9
132.5°	1109.9	1110.7	1111.5	1112.3	1113.0	1112.9	1111.9	1110.8	1109.8	1108.7	1108.0
135°	1162.7	1163.5	1164.3	1165.1	1165.8	1165.8	1165.1	1164.3	1163.5	1162.7	1161.7
137.5°	1213.2	1213.7	1214.2	1214.7	1215.2	1214.9	1213.6	1212.3	1210.9	1209.6	1209.1
140°	1257.7	1258.3	1258.8	1259.3	1259.8	1259.6	1258.5	1257.5	1256.4	1255.4	1254.6
142.5°	1298.8	1299.6	1300.4	1301.2	1301.9	1301.9	1301.2	1300.4	1299.6	1298.8	1298.0
145°	1341.0	1341.0	1341.0	1341.0	1341.0	1340.8	1340.3	1339.7	1339.2	1338.7	1338.2
147.5°	1371.6	1372.9	1374.2	1375.5	1376.8	1377.2	1376.6	1376.1	1375.6	1375.1	1374.6
150°	1406.8	1407.5	1408.3	1409.1	1409.9	1410.0	1409.5	1409.0	1408.4	1407.9	1407.4
152.5°	1434.9	1436.2	1437.5	1438.8	1440.1	1440.3	1439.2	1438.2	1437.1	1436.1	1435.8
155°	1460.7	1462.3	1463.9	1465.4	1467.0	1467.1	1465.8	1464.5	1463.2	1461.9	1461.6
157.5°	1483.0	1485.1	1487.2	1489.3	1491.4	1491.6	1490.1	1488.5	1486.9	1485.4	1485.6
160°	1504.1	1506.0	1507.8	1509.6	1511.4	1511.6	1510.0	1508.4	1506.9	1505.3	1505.6
162.5°	1524.1	1525.6	1527.2	1528.8	1530.3	1530.2	1528.4	1526.6	1524.7	1522.9	1523.2
165°	1539.3	1541.2	1543.0	1544.8	1546.6	1546.5	1544.4	1542.3	1540.2	1538.2	1538.4
167.5°	1551.1	1553.2	1555.2	1557.3	1559.4	1559.4	1557.3	1555.2	1553.2	1551.1	1551.1
170°	1561.6	1563.7	1565.8	1567.9	1570.0	1570.0	1567.9	1565.8	1563.7	1561.6	1561.6
172.5°	1567.5	1569.8	1572.2	1574.5	1576.9	1577.0	1574.9	1572.8	1570.8	1568.7	1568.4
175°	1573.4	1575.4	1577.5	1579.6	1581.7	1581.8	1580.0	1578.2	1576.4	1574.5	1574.3
177.5°	1574.5	1577.1	1579.7	1582.4	1585.0	1585.2	1583.1	1581.0	1579.0	1576.9	1576.6
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



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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°	21.4	18.0	14.6	11.6	9.0	6.4	3.8	1.2	3.8	6.4	9.0
92.5°	25.8	23.5	21.1	20.7	22.3	23.9	25.4	27.0	25.4	23.9	22.3
95°	30.6	27.8	24.9	28.8	39.5	50.2	60.9	71.6	60.9	50.2	39.5
97.5°	64.1	77.4	90.7	101.0	108.3	115.6	122.9	130.2	122.9	115.6	108.3
100°	120.1	160.7	201.4	219.1	213.9	208.7	203.5	198.3	203.5	208.7	213.9
102.5°	177.6	222.9	268.3	289.3	285.9	282.5	279.1	275.7	279.1	282.5	285.9
105°	303.9	327.3	350.8	361.1	358.2	355.4	352.5	349.6	352.5	355.4	358.2
107.5°	448.6	444.7	440.8	437.6	435.3	432.9	430.6	428.2	430.6	432.9	435.3
110°	523.4	520.5	517.7	515.2	513.1	511.0	508.9	506.9	508.9	511.0	513.1





TEST NUMBER: P831348

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	597.3	594.5	591.6	589.2	587.4	585.6	583.8	581.9	583.8	585.6	587.4
115°	668.8	666.4	664.1	662.1	660.6	659.0	657.4	655.9	657.4	659.0	660.6
117.5°	740.1	738.8	737.5	735.9	734.1	732.3	730.4	728.6	730.4	732.3	734.1
120°	808.0	807.2	806.4	804.9	802.5	800.2	797.8	795.5	797.8	800.2	802.5
122.5°	874.3	873.3	872.3	870.8	869.0	867.2	865.4	863.5	865.4	867.2	869.0
125°	936.5	935.5	934.4	932.9	930.8	928.7	926.6	924.5	926.6	928.7	930.8
127.5°	998.2	996.9	995.6	993.9	991.8	989.7	987.6	985.5	987.6	989.7	991.8
130°	1053.9	1052.8	1051.8	1050.2	1048.1	1046.0	1044.0	1041.9	1044.0	1046.0	1048.1
132.5°	1107.2	1106.4	1105.6	1104.2	1102.1	1100.0	1097.9	1095.8	1097.9	1100.0	1102.1
135°	1160.6	1159.6	1158.5	1157.2	1155.7	1154.1	1152.5	1151.0	1152.5	1154.1	1155.7
137.5°	1208.6	1208.1	1207.6	1206.3	1204.2	1202.1	1200.0	1197.9	1200.0	1202.1	1204.2
140°	1253.8	1253.1	1252.3	1251.1	1249.5	1248.0	1246.4	1244.8	1246.4	1248.0	1249.5
142.5°	1297.2	1296.5	1295.7	1294.5	1292.9	1291.4	1289.8	1288.3	1289.8	1291.4	1292.9
145°	1337.7	1337.1	1336.6	1335.4	1333.6	1331.8	1330.0	1328.1	1330.0	1331.8	1333.6
147.5°	1374.0	1373.5	1373.0	1372.1	1370.8	1369.5	1368.2	1366.9	1368.2	1369.5	1370.8
150°	1406.9	1406.4	1405.8	1405.2	1404.4	1403.6	1402.8	1402.1	1402.8	1403.6	1404.4
152.5°	1435.6	1435.3	1435.0	1434.8	1434.5	1434.3	1434.0	1433.7	1434.0	1434.3	1434.5
155°	1461.4	1461.1	1460.9	1461.0	1461.5	1462.0	1462.5	1463.1	1462.5	1462.0	1461.5
157.5°	1485.9	1486.1	1486.4	1486.5	1486.5	1486.5	1486.5	1486.5	1486.5	1486.5	1486.5
160°	1505.8	1506.1	1506.4	1506.6	1506.9	1507.1	1507.4	1507.7	1507.4	1507.1	1506.9
162.5°	1523.4	1523.7	1523.9	1524.5	1525.3	1526.0	1526.8	1527.6	1526.8	1526.0	1525.3
165°	1538.7	1538.9	1539.2	1539.7	1540.5	1541.3	1542.1	1542.9	1542.1	1541.3	1540.5
167.5°	1551.1	1551.1	1551.1	1551.6	1552.6	1553.7	1554.7	1555.8	1554.7	1553.7	1552.6
170°	1561.6	1561.6	1561.6	1562.1	1563.2	1564.2	1565.3	1566.3	1565.3	1564.2	1563.2
172.5°	1568.1	1567.9	1567.6	1568.1	1569.4	1570.8	1572.1	1573.4	1572.1	1570.8	1569.4
175°	1574.0	1573.7	1573.5	1574.0	1575.3	1576.6	1577.9	1579.2	1577.9	1576.6	1575.3
177.5°	1576.4	1576.1	1575.8	1576.4	1577.7	1579.0	1580.3	1581.6	1580.3	1579.0	1577.7
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



TEST NUMBER: P831348

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

**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°	11.6	14.6	18.0	21.4	24.8	28.2	29.2	30.2	31.3	32.3	33.1
92.5°	20.7	21.1	23.5	25.8	28.2	30.5	32.3	34.2	36.0	37.8	38.8
95°	28.8	24.9	27.8	30.6	33.5	36.4	38.2	40.0	41.8	43.7	44.6
97.5°	101.0	90.7	77.4	64.1	50.8	37.5	39.6	41.7	43.8	45.9	47.1
100°	219.1	201.4	160.7	120.1	79.4	38.7	40.8	42.9	45.0	47.1	48.2
102.5°	289.3	268.3	222.9	177.6	132.2	86.8	78.2	69.6	61.0	52.4	48.4
105°	361.1	350.8	327.3	303.9	280.4	256.9	210.8	164.6	118.5	72.4	49.5
107.5°	437.6	440.8	444.7	448.6	452.5	456.4	416.3	376.1	335.9	295.8	258.6
110°	515.2	517.7	520.5	523.4	526.3	529.1	520.5	511.9	503.3	494.7	471.8



TEST NUMBER: P831348

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

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	589.2	591.6	594.5	597.3	600.2	603.1	605.4	607.8	610.1	612.4	613.4
115°	662.1	664.1	666.4	668.8	671.1	673.5	676.1	678.7	681.3	683.9	685.7
117.5°	735.9	737.5	738.8	740.1	741.4	742.7	744.8	746.9	748.9	751.0	752.2
120°	804.9	806.4	807.2	808.0	808.8	809.6	811.6	813.7	815.8	817.9	818.9
122.5°	870.8	872.3	873.3	874.3	875.4	876.4	877.7	879.0	880.3	881.6	882.4
125°	932.9	934.4	935.5	936.5	937.6	938.6	939.1	939.7	940.2	940.7	941.2
127.5°	993.9	995.6	996.9	998.2	999.5	1000.8	1001.6	1002.4	1003.1	1003.9	1004.1
130°	1050.2	1051.8	1052.8	1053.9	1054.9	1055.9	1057.0	1058.0	1059.1	1060.1	1060.4
132.5°	1104.2	1105.6	1106.4	1107.2	1108.0	1108.7	1109.8	1110.8	1111.9	1112.9	1113.0
135°	1157.2	1158.5	1159.6	1160.6	1161.7	1162.7	1163.5	1164.3	1165.1	1165.8	1165.8
137.5°	1206.3	1207.6	1208.1	1208.6	1209.1	1209.6	1210.9	1212.3	1213.6	1214.9	1215.2
140°	1251.1	1252.3	1253.1	1253.8	1254.6	1255.4	1256.4	1257.5	1258.5	1259.6	1259.8
142.5°	1294.5	1295.7	1296.5	1297.2	1298.0	1298.8	1299.6	1300.4	1301.2	1301.9	1301.9
145°	1335.4	1336.6	1337.1	1337.7	1338.2	1338.7	1339.2	1339.7	1340.3	1340.8	1341.0
147.5°	1372.1	1373.0	1373.5	1374.0	1374.6	1375.1	1375.6	1376.1	1376.6	1377.2	1376.8
150°	1405.2	1405.8	1406.4	1406.9	1407.4	1407.9	1408.4	1409.0	1409.5	1410.0	1409.9
152.5°	1434.8	1435.0	1435.3	1435.6	1435.8	1436.1	1437.1	1438.2	1439.2	1440.3	1440.1
155°	1461.0	1460.9	1461.1	1461.4	1461.6	1461.9	1463.2	1464.5	1465.8	1467.1	1467.0
157.5°	1486.5	1486.4	1486.1	1485.9	1485.6	1485.4	1486.9	1488.5	1490.1	1491.6	1491.4
160°	1506.6	1506.4	1506.1	1505.8	1505.6	1505.3	1506.9	1508.4	1510.0	1511.6	1511.4
162.5°	1524.5	1523.9	1523.7	1523.4	1523.2	1522.9	1524.7	1526.6	1528.4	1530.2	1530.3
165°	1539.7	1539.2	1538.9	1538.7	1538.4	1538.2	1540.2	1542.3	1544.4	1546.5	1546.6
167.5°	1551.6	1551.1	1551.1	1551.1	1551.1	1551.1	1553.2	1555.2	1557.3	1559.4	1559.4
170°	1562.1	1561.6	1561.6	1561.6	1561.6	1561.6	1563.7	1565.8	1567.9	1570.0	1570.0
172.5°	1568.1	1567.6	1567.9	1568.1	1568.4	1568.7	1570.8	1572.8	1574.9	1577.0	1576.9
175°	1574.0	1573.5	1573.7	1574.0	1574.3	1574.5	1576.4	1578.2	1580.0	1581.8	1581.7
177.5°	1576.4	1575.8	1576.1	1576.4	1576.6	1576.9	1579.0	1581.0	1583.1	1585.2	1585.0
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



TEST NUMBER: P831348

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

**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°	33.6	34.2	34.7	35.2
92.5°	39.1	39.4	39.6	39.9
95°	44.6	44.6	44.6	44.6
97.5°	47.3	47.6	47.8	48.1
100°	48.5	48.8	49.0	49.3
102.5°	48.9	49.4	49.9	50.5
105°	50.1	50.6	51.1	51.6
107.5°	224.5	190.3	156.2	122.0
110°	434.5	397.2	359.9	322.6



TEST NUMBER: P831348

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

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
112.5°	612.8	612.3	611.8	611.3
115°	686.8	687.8	688.8	689.9
117.5°	752.5	752.7	753.0	753.2
120°	818.9	818.9	818.9	818.9
122.5°	882.7	883.0	883.2	883.5
125°	941.7	942.3	942.8	943.3
127.5°	1003.5	1003.0	1002.5	1002.0
130°	1059.9	1059.3	1058.8	1058.3
132.5°	1112.3	1111.5	1110.7	1109.9
135°	1165.1	1164.3	1163.5	1162.7
137.5°	1214.7	1214.2	1213.7	1213.2
140°	1259.3	1258.8	1258.3	1257.7
142.5°	1301.2	1300.4	1299.6	1298.8
145°	1341.0	1341.0	1341.0	1341.0
147.5°	1375.5	1374.2	1372.9	1371.6
150°	1409.1	1408.3	1407.5	1406.8
152.5°	1438.8	1437.5	1436.2	1434.9
155°	1465.4	1463.9	1462.3	1460.7
157.5°	1489.3	1487.2	1485.1	1483.0
160°	1509.6	1507.8	1506.0	1504.1
162.5°	1528.8	1527.2	1525.6	1524.1
165°	1544.8	1543.0	1541.2	1539.3
167.5°	1557.3	1555.2	1553.2	1551.1
170°	1567.9	1565.8	1563.7	1561.6
172.5°	1574.5	1572.2	1569.8	1567.5
175°	1579.6	1577.5	1575.4	1573.4
177.5°	1582.4	1579.7	1577.1	1574.5
180°	1579.2	1579.2	1579.2	1579.2



TEST NUMBER: P831348

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

**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	8.80	9.46	9.95	10.60	12.19	11.04	11.70	12.19	12.83	14.43
	3H	10.44	11.03	11.60	12.17	13.78	12.45	13.04	13.61	14.18	15.79
	4H	11.01	11.56	12.17	12.71	14.32	12.89	13.45	14.06	14.60	16.21
	6H	11.37	11.88	12.54	13.03	14.65	13.16	13.67	14.33	14.82	16.44
	8H	11.46	11.95	12.63	13.11	14.72	13.21	13.70	14.39	14.86	16.48
	12H	11.50	11.96	12.68	13.11	14.75	13.23	13.69	14.41	14.85	16.48
4H	2H	9.35	9.91	10.53	11.06	12.67	11.18	11.74	12.36	12.88	14.50
	3H	11.17	11.63	12.35	12.80	14.43	12.78	13.25	13.96	14.42	16.04
	4H	11.86	12.29	13.04	13.44	15.09	13.36	13.79	14.54	14.94	16.59
	6H	12.32	12.69	13.51	13.87	15.50	13.75	14.12	14.94	15.30	16.93
	8H	12.45	12.80	13.64	13.97	15.62	13.86	14.20	15.04	15.37	17.02
	12H	12.51	12.82	13.71	14.01	15.66	13.89	14.21	15.09	15.39	17.04
8H	4H	12.11	12.45	13.29	13.62	15.27	13.45	13.79	14.63	14.96	16.61
	6H	12.69	12.97	13.89	14.19	15.83	13.94	14.23	15.15	15.44	17.08
	8H	12.90	13.14	14.10	14.33	16.00	14.12	14.37	15.33	15.56	17.22
	12H	13.01	13.23	14.22	14.42	16.11	14.21	14.43	15.43	15.62	17.32
12H	4H	12.10	12.41	13.30	13.59	15.25	13.41	13.72	14.61	14.91	16.56
	6H	12.74	12.98	13.95	14.18	15.84	13.96	14.20	15.16	15.39	17.06
	8H	12.96	13.18	14.18	14.37	16.06	14.15	14.36	15.36	15.55	17.25