

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332929-840

Luminaire Tested: **S124RDIP-S795D365U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332929-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-S795D365U840-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4522.7 lumens  
Efficiency: N/A  
Efficacy: 129.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

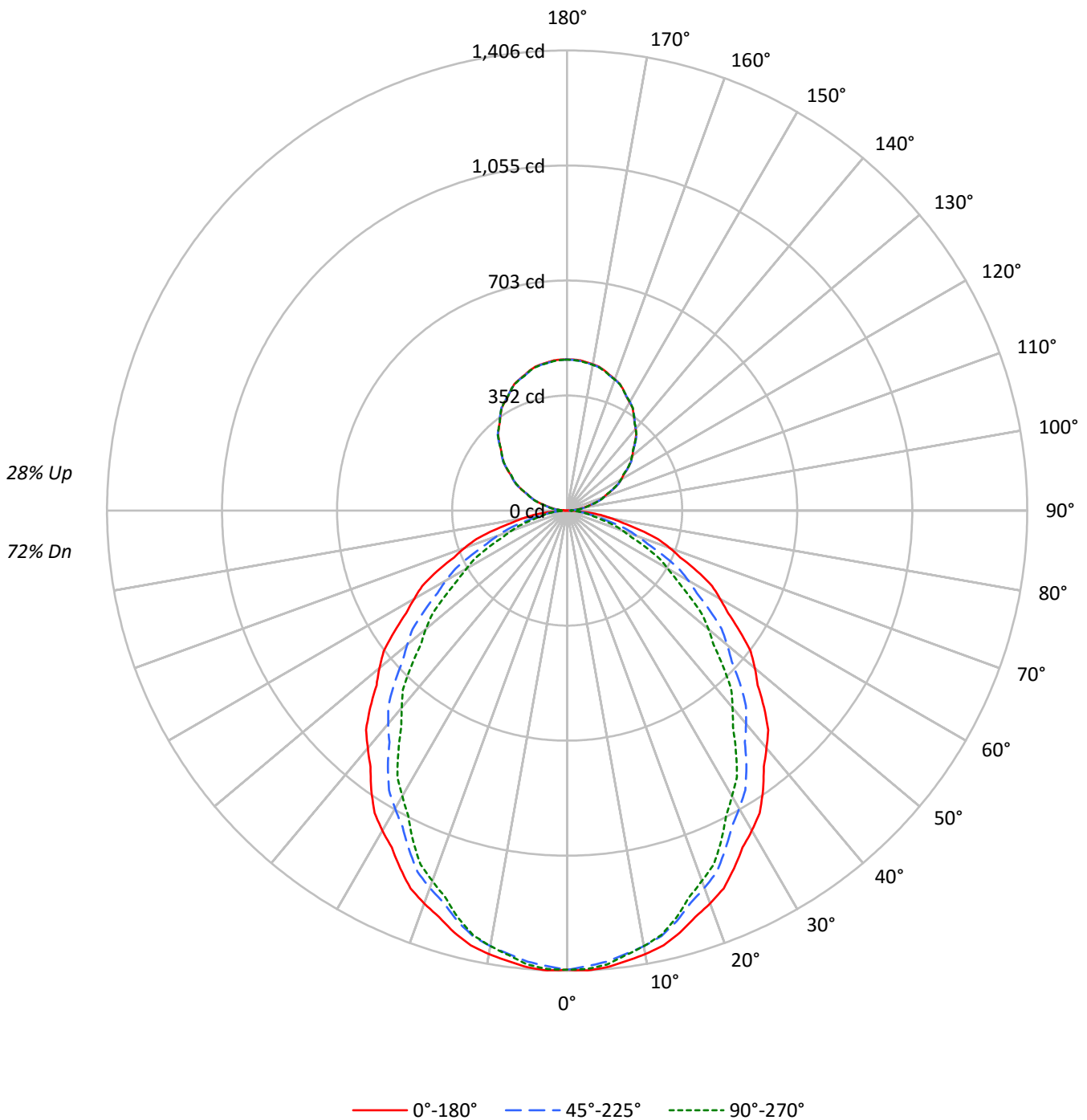
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	76	76	76	72
1	103	99	95	91	98	94	90	87	84	82	79	76	74	72	68	66	65	61
2	94	87	81	75	89	82	77	72	74	70	66	67	64	61	60	58	55	52
3	86	77	69	63	81	73	66	61	66	61	56	60	55	52	54	50	48	44
4	79	68	60	54	75	65	58	52	59	53	48	53	49	45	48	44	41	38
5	73	61	53	47	69	58	51	45	53	47	42	48	43	39	44	39	36	33
6	67	55	47	41	64	53	45	39	48	42	37	44	38	34	40	35	32	30
7	62	50	42	36	59	48	40	35	44	37	33	40	35	31	36	32	29	26
8	58	45	38	32	55	44	36	31	40	34	29	37	31	28	33	29	26	24
9	54	42	34	29	51	40	33	28	37	31	26	34	29	25	31	27	23	21
10	51	38	31	26	48	37	30	25	34	28	24	31	26	23	29	24	21	20

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

	0°	45°	90°
0°	11326	11326	11326
5°	11351	11212	11281
10°	11280	11077	11077
15°	11150	10845	10764
20°	10972	10539	10345
25°	10745	10180	9922
30°	10523	9803	9392
35°	10279	9411	8861
40°	9985	8965	8286
45°	9712	8524	7702
50°	9403	8013	7082
55°	9071	7484	6410
60°	8707	6902	5724
65°	8373	6178	5049
70°	7886	5375	4286
75°	7271	4457	3484
80°	6341	3394	3199
85°	5372	3084	2881



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.8	2.9
10°-20°	367.5	8.1
20°-30°	530.6	11.7
30°-40°	601.5	13.3
40°-50°	580.8	12.8
50°-60°	483.0	10.7
60°-70°	333.5	7.4
70°-80°	169.1	3.7
80°-90°	44.7	1.0
90°-100°	30.4	0.7
100°-110°	90.2	2.0
110°-120°	153.0	3.4
120°-130°	201.8	4.5
130°-140°	226.6	5.0
140°-150°	222.7	4.9
150°-160°	187.3	4.1
160°-170°	124.6	2.8
170°-180°	43.6	1.0
0°-30°	1029.9	22.8
0°-40°	1631.4	36.1
0°-60°	2695.2	59.6
0°-90°	3242.6	71.7
90°-120°	273.6	6.0
90°-150°	924.6	20.4
90°-180°	1280.0	28.3
0°-180°	4522.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1403	1403	1403	1403	1403	
5°	1401	1396	1384	1394	1392	133
15°	1334	1324	1298	1295	1288	376
25°	1206	1186	1143	1125	1114	556
35°	1043	1008	955	919	899	651
45°	851	810	747	696	675	656
55°	644	600	532	478	455	576
65°	438	391	323	279	264	433
75°	233	193	143	119	112	246
85°	58	38	33	31	31	65
90°	1	5	8	10	11	4
95°	21	25	27	28	28	24
105°	83	84	85	86	87	88
115°	156	156	155	154	154	153
125°	227	227	226	226	225	202
135°	292	294	294	294	293	226
145°	355	356	357	356	356	222
155°	407	407	406	408	406	187
165°	443	442	441	443	442	125
175°	461	459	459	461	459	44
180°	461	461	461	461	461	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1406.3	1405.5	1404.7	1404.0	1403.2	1401.8	1399.7	1397.7	1395.5	1393.4	1395.5
5°	1400.7	1399.8	1398.8	1397.9	1396.8	1395.0	1392.1	1389.3	1386.3	1383.5	1385.9
7.5°	1388.1	1387.0	1386.0	1385.0	1384.0	1381.7	1378.0	1374.2	1370.5	1366.8	1368.3
10°	1376.0	1374.8	1373.6	1372.4	1371.2	1368.5	1364.2	1359.9	1355.6	1351.3	1352.2
12.5°	1360.5	1359.2	1357.8	1356.3	1355.0	1351.8	1346.8	1341.6	1336.6	1331.5	1332.1
15°	1334.1	1332.0	1329.8	1327.7	1325.5	1321.5	1315.5	1309.5	1303.5	1297.6	1297.1
17.5°	1302.1	1299.0	1295.9	1292.8	1289.7	1284.5	1277.4	1270.2	1263.0	1255.9	1254.6
20°	1277.2	1274.0	1271.0	1267.9	1264.8	1259.2	1251.0	1242.9	1234.8	1226.7	1224.8
22.5°	1249.7	1246.2	1242.7	1239.2	1235.8	1229.6	1220.9	1212.2	1203.6	1194.9	1192.0
25°	1206.3	1201.9	1197.7	1193.4	1189.1	1182.0	1172.3	1162.5	1152.7	1142.9	1138.8
27.5°	1160.7	1155.4	1149.9	1144.6	1139.1	1131.3	1120.7	1110.3	1099.8	1089.4	1084.4
30°	1128.9	1123.0	1117.0	1111.1	1105.1	1096.5	1085.3	1074.1	1062.8	1051.6	1045.6
32.5°	1095.4	1088.7	1082.0	1075.2	1068.5	1059.3	1047.7	1036.1	1024.5	1012.9	1006.0
35°	1043.0	1035.4	1027.7	1020.1	1012.5	1002.7	990.8	978.8	966.8	954.9	946.8
37.5°	986.9	979.1	971.2	963.3	955.4	944.9	931.7	918.5	905.2	892.0	882.9
40°	947.5	939.6	931.7	923.8	915.9	905.1	891.5	878.0	864.3	850.7	840.7
42.5°	909.6	901.3	893.1	884.8	876.6	865.4	851.2	837.0	822.8	808.6	798.4
45°	850.7	841.9	833.0	824.3	815.4	803.9	789.5	775.2	760.8	746.6	734.9
47.5°	789.9	780.8	771.7	762.5	753.5	741.4	726.6	711.7	696.8	681.9	669.7
50°	748.7	739.4	730.0	720.7	711.4	699.1	683.9	668.6	653.3	638.0	626.1
52.5°	706.6	697.5	688.3	679.2	670.1	657.7	642.1	626.4	610.8	595.1	583.0
55°	644.5	634.9	625.4	615.8	606.3	593.8	578.2	562.7	547.2	531.7	519.3
57.5°	583.1	573.1	563.2	553.3	543.3	530.7	515.4	500.2	484.9	469.6	457.1
60°	539.3	529.7	520.2	510.6	501.0	488.7	473.3	458.1	442.8	427.5	415.1
62.5°	499.7	489.8	479.9	469.9	460.0	447.2	431.5	415.9	400.2	384.6	373.0
65°	438.3	428.0	417.7	407.5	397.2	384.5	369.1	353.9	338.6	323.4	313.1
67.5°	374.5	364.7	354.8	345.0	335.1	323.2	308.9	294.8	280.5	266.4	257.5
70°	334.1	324.1	314.0	304.0	294.0	282.2	268.5	254.9	241.4	227.7	219.8
72.5°	291.1	282.1	273.0	263.9	254.8	243.9	231.1	218.1	205.3	192.5	185.7
75°	233.1	224.3	215.4	206.6	197.7	187.7	176.5	165.3	154.1	142.9	137.3
77.5°	174.2	166.7	159.3	151.8	144.2	135.9	126.9	117.9	108.8	99.7	96.4
80°	136.4	129.5	122.6	115.6	108.8	101.7	94.5	87.4	80.2	73.0	72.3
82.5°	103.8	97.5	91.1	84.7	78.4	73.1	69.1	64.9	60.8	56.8	56.1
85°	58.0	53.2	48.5	43.7	38.9	36.2	35.4	34.7	34.0	33.3	32.8
87.5°	20.0	18.6	17.3	16.0	14.5	13.8	13.8	13.7	13.6	13.6	13.5
90°	1.1	1.9	2.8	3.7	4.5	5.4	6.0	6.6	7.2	7.9	8.3
92.5°	7.7	8.7	9.6	10.6	11.6	12.3	12.8	13.2	13.7	14.1	14.4
95°	21.4	22.1	22.8	23.5	24.2	24.9	25.4	26.1	26.6	27.2	27.4
97.5°	37.4	38.0	38.6	39.1	39.7	40.3	40.9	41.6	42.2	42.9	43.2
100°	50.0	50.3	50.6	50.9	51.2	51.7	52.4	53.2	53.9	54.6	54.7
102.5°	63.1	63.2	63.3	63.5	63.6	64.0	64.6	65.3	65.9	66.6	66.9
105°	83.1	83.2	83.3	83.4	83.4	83.6	84.0	84.3	84.6	84.9	85.1
107.5°	104.2	104.3	104.4	104.5	104.6	104.6	104.7	104.7	104.8	104.8	105.0
110°	118.5	118.7	118.8	119.0	119.1	119.2	119.1	119.0	118.9	118.9	118.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	133.3	133.3	133.4	133.4	133.4	133.4	133.2	133.1	133.0	132.8	132.8
115°	155.6	155.6	155.6	155.6	155.6	155.5	155.3	155.2	155.0	154.9	154.8
117.5°	176.5	176.6	176.7	176.7	176.8	176.8	176.7	176.6	176.4	176.3	176.1
120°	190.6	190.9	191.2	191.5	191.9	191.9	191.7	191.4	191.2	191.0	190.6
122.5°	205.1	205.2	205.4	205.5	205.6	205.6	205.5	205.4	205.3	205.2	204.9
125°	226.6	226.6	226.6	226.6	226.6	226.5	226.5	226.4	226.3	226.2	226.1
127.5°	246.1	246.3	246.6	246.8	247.0	247.1	247.0	246.8	246.7	246.6	246.4
130°	259.8	260.0	260.2	260.5	260.7	260.8	260.8	260.8	260.8	260.8	260.7
132.5°	273.8	274.0	274.1	274.3	274.5	274.5	274.5	274.4	274.4	274.3	274.1
135°	292.3	292.8	293.2	293.7	294.2	294.4	294.4	294.4	294.4	294.4	294.3
137.5°	312.4	312.7	312.9	313.1	313.3	313.5	313.6	313.7	313.9	314.0	313.8
140°	325.8	326.0	326.1	326.3	326.5	326.5	326.5	326.5	326.5	326.5	326.5
142.5°	338.1	338.2	338.4	338.5	338.7	338.8	338.7	338.6	338.6	338.5	338.5
145°	355.1	355.4	355.7	356.0	356.4	356.6	356.6	356.7	356.8	356.9	356.8
147.5°	371.9	372.3	372.6	373.0	373.4	373.5	373.5	373.4	373.4	373.3	373.2
150°	382.2	382.5	382.8	383.1	383.4	383.6	383.6	383.6	383.6	383.6	383.6
152.5°	391.9	392.1	392.2	392.4	392.6	392.7	392.8	392.9	392.9	393.0	393.2
155°	406.8	406.8	406.8	406.8	406.8	406.8	406.7	406.6	406.6	406.5	406.8
157.5°	419.4	419.2	419.1	419.0	418.8	418.7	418.7	418.7	418.7	418.7	418.9
160°	426.8	426.7	426.7	426.6	426.5	426.4	426.4	426.3	426.2	426.1	426.4
162.5°	433.6	433.4	433.2	433.0	432.8	432.7	432.6	432.5	432.4	432.3	432.8
165°	442.8	442.6	442.4	442.1	441.9	441.7	441.5	441.4	441.2	441.1	441.5
167.5°	449.9	449.6	449.3	448.9	448.6	448.4	448.5	448.5	448.5	448.5	449.0
170°	453.9	453.5	453.1	452.7	452.3	452.2	452.2	452.3	452.4	452.5	452.9
172.5°	456.8	456.5	456.1	455.8	455.4	455.2	455.2	455.3	455.3	455.3	455.9
175°	460.7	460.3	459.9	459.5	459.1	458.9	458.8	458.7	458.7	458.6	459.1
177.5°	462.0	461.7	461.3	461.0	460.7	460.6	460.6	460.6	460.6	460.6	461.0
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1397.7	1399.7	1401.8	1402.8	1402.6	1402.4	1402.2	1402.0
5°	1388.3	1390.7	1393.1	1394.0	1393.5	1393.1	1392.6	1392.1
7.5°	1369.8	1371.4	1372.9	1373.2	1372.5	1371.7	1371.0	1370.2
10°	1353.2	1354.1	1355.1	1355.1	1354.1	1353.2	1352.2	1351.3
12.5°	1332.7	1333.2	1333.8	1333.4	1332.1	1330.8	1329.4	1328.1
15°	1296.7	1296.2	1295.7	1294.6	1292.9	1291.2	1289.6	1287.9
17.5°	1253.2	1251.9	1250.5	1248.6	1246.1	1243.5	1241.0	1238.5
20°	1222.8	1220.9	1219.0	1216.6	1213.5	1210.3	1207.2	1204.2
22.5°	1189.2	1186.3	1183.5	1180.7	1178.2	1175.7	1173.2	1170.6
25°	1134.8	1130.7	1126.7	1123.5	1121.1	1118.7	1116.3	1113.9
27.5°	1079.3	1074.4	1069.3	1065.1	1061.7	1058.2	1054.8	1051.4
30°	1039.7	1033.7	1027.7	1022.8	1019.1	1015.2	1011.4	1007.5
32.5°	999.1	992.2	985.2	980.0	976.3	972.7	969.1	965.4
35°	938.7	930.6	922.5	916.3	912.0	907.7	903.3	899.1
37.5°	873.8	864.7	855.7	849.0	844.8	840.4	836.2	831.8
40°	830.7	820.6	810.6	803.4	799.2	794.9	790.6	786.3
42.5°	788.2	778.0	767.8	760.4	755.9	751.4	747.0	742.5
45°	723.2	711.4	699.7	691.8	687.4	683.2	678.8	674.6
47.5°	657.6	645.5	633.4	624.9	620.3	615.5	610.8	606.0
50°	614.2	602.3	590.3	582.1	577.5	573.0	568.5	563.9
52.5°	570.9	558.8	546.5	538.2	533.4	528.7	524.0	519.3
55°	506.9	494.4	482.1	473.6	469.1	464.5	460.0	455.4
57.5°	444.4	431.8	419.2	411.2	407.8	404.3	400.9	397.5
60°	402.7	390.3	377.9	369.7	366.0	362.1	358.3	354.5
62.5°	361.6	350.2	338.7	331.4	328.4	325.4	322.2	319.2
65°	302.8	292.6	282.3	275.7	272.9	269.9	267.1	264.3
67.5°	248.7	239.9	231.1	225.1	222.0	218.7	215.6	212.5
70°	212.0	204.1	196.2	191.1	188.7	186.3	183.9	181.6
72.5°	179.0	172.3	165.5	161.1	159.0	156.7	154.5	152.3
75°	131.9	126.4	120.9	117.4	116.0	114.6	113.1	111.7
77.5°	93.3	90.1	86.8	85.0	84.6	84.2	83.8	83.3
80°	71.6	70.9	70.2	69.7	69.5	69.2	69.0	68.8
82.5°	55.6	55.1	54.6	54.2	54.0	53.7	53.5	53.3
85°	32.3	31.9	31.4	31.1	31.1	31.1	31.1	31.1
87.5°	13.4	13.3	13.2	13.3	13.5	13.7	13.9	14.1
90°	8.8	9.3	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	14.7	14.9	15.2	15.5	15.6	15.7	15.8	15.9
95°	27.6	27.9	28.1	28.2	28.2	28.2	28.2	28.2
97.5°	43.4	43.7	44.0	44.1	44.1	44.1	44.1	44.1
100°	54.9	55.0	55.2	55.3	55.3	55.3	55.3	55.3
102.5°	67.1	67.3	67.5	67.7	67.7	67.8	67.8	67.9
105°	85.4	85.6	85.8	86.1	86.3	86.6	86.8	87.1
107.5°	105.3	105.5	105.7	105.8	105.8	105.8	105.8	105.7
110°	118.6	118.4	118.2	118.3	118.5	118.8	119.0	119.2





TEST NUMBER: P332929-840

CATALOG NUMBER: S124RDIP-S795D365U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	132.8	132.7	132.7	132.7	132.8	132.8	132.8	132.9
115°	154.7	154.6	154.5	154.5	154.4	154.3	154.2	154.2
117.5°	175.8	175.5	175.3	175.1	174.9	174.7	174.6	174.4
120°	190.2	189.8	189.3	189.2	189.3	189.6	189.7	189.9
122.5°	204.7	204.4	204.1	203.8	203.6	203.3	203.0	202.7
125°	225.9	225.8	225.6	225.4	225.3	225.1	225.0	224.8
127.5°	246.3	246.1	245.9	245.8	245.7	245.6	245.4	245.3
130°	260.5	260.3	260.2	259.9	259.6	259.3	259.0	258.7
132.5°	274.0	273.8	273.7	273.5	273.4	273.3	273.2	273.0
135°	294.1	294.0	293.8	293.6	293.4	293.1	292.9	292.7
137.5°	313.6	313.4	313.2	313.1	313.1	313.2	313.2	313.3
140°	326.4	326.3	326.2	326.1	326.1	326.0	325.9	325.8
142.5°	338.5	338.5	338.4	338.4	338.4	338.4	338.4	338.4
145°	356.7	356.6	356.6	356.4	356.2	355.9	355.7	355.5
147.5°	373.2	373.1	373.0	373.0	372.9	372.8	372.7	372.7
150°	383.6	383.6	383.6	383.5	383.5	383.4	383.3	383.2
152.5°	393.4	393.6	393.8	393.7	393.5	393.3	393.1	392.9
155°	407.1	407.4	407.7	407.7	407.4	407.1	406.8	406.5
157.5°	419.1	419.4	419.6	419.6	419.3	419.1	418.8	418.5
160°	426.6	426.8	427.1	427.0	426.6	426.2	425.8	425.4
162.5°	433.2	433.6	434.0	434.0	433.7	433.3	432.9	432.5
165°	442.0	442.5	442.9	443.0	442.7	442.4	442.1	441.8
167.5°	449.5	449.9	450.4	450.4	449.9	449.4	448.9	448.4
170°	453.4	453.9	454.4	454.3	453.8	453.2	452.7	452.1
172.5°	456.5	457.0	457.5	457.5	457.0	456.4	455.9	455.2
175°	459.7	460.2	460.8	460.8	460.2	459.7	459.1	458.6
177.5°	461.4	461.9	462.3	462.3	461.8	461.3	460.8	460.3
180°	461.4	461.4	461.4	461.4	461.4	461.4	461.4	461.4

(END OF REPORT)