

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: P333058-830

Luminaire Tested: **S124RDIW-S795D470U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333058-830  
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: S124RDIW-S795D470U830-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4558.9 lumens  
Efficiency: N/A  
Efficacy: 120.9 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

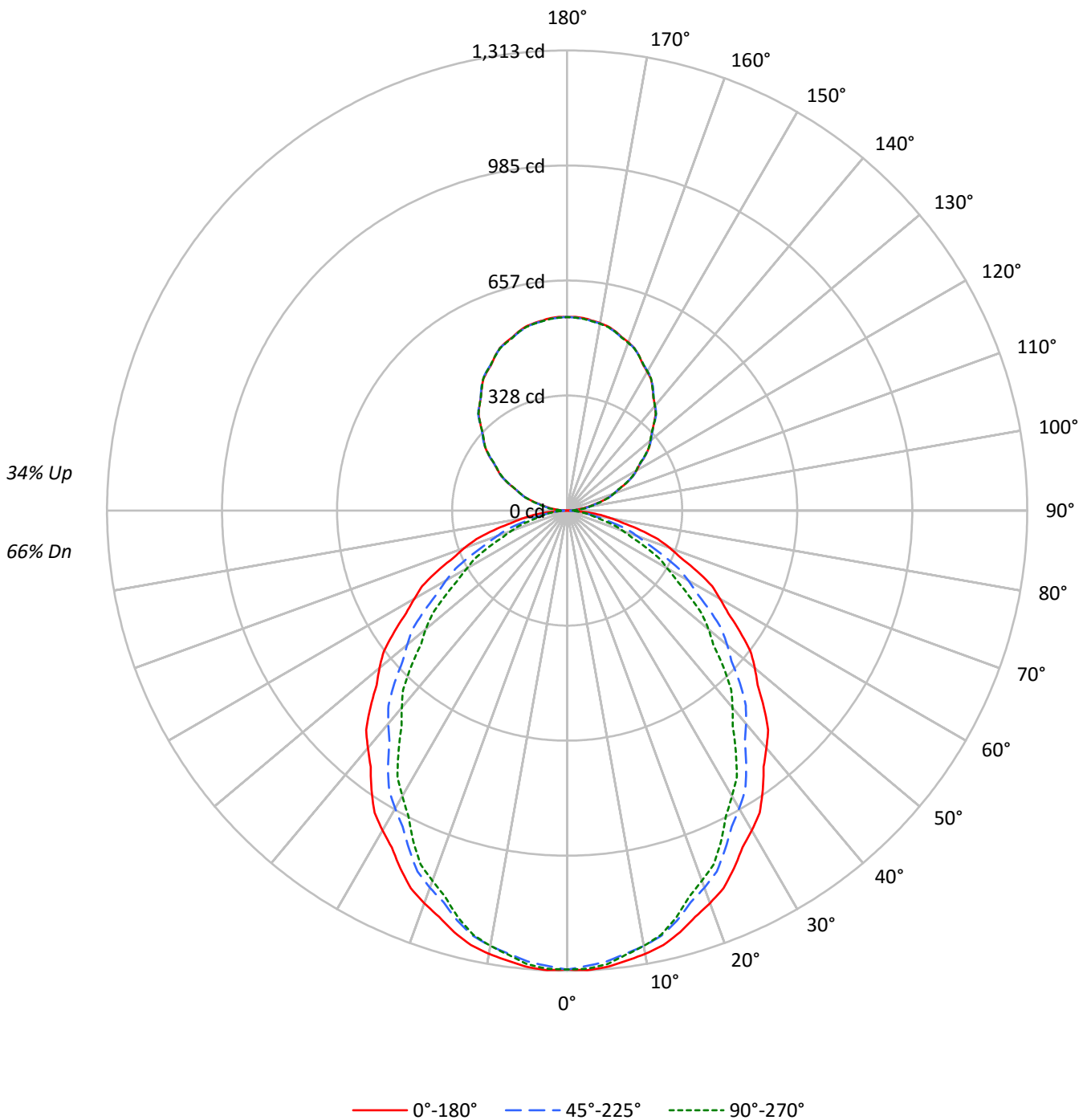
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66
1	102	98	94	90	96	92	89	86	82	79	77	72	70	69	64	62	61	57
2	93	86	79	74	87	81	75	71	72	68	64	64	61	58	56	54	52	48
3	85	76	68	62	80	72	65	60	64	59	54	57	53	49	50	47	44	41
4	78	67	59	53	73	64	56	51	57	51	47	51	46	43	45	42	39	35
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	41	37	34	31
6	66	54	46	40	62	51	44	39	46	40	36	42	37	33	37	33	30	27
7	61	49	41	35	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	31	54	43	35	30	39	33	28	35	30	26	31	27	24	22
9	53	41	33	28	50	39	32	27	36	30	25	32	27	24	29	25	22	20
10	50	38	30	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

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

	0°	45°	90°
0°	10571	10571	10571
5°	10594	10464	10529
10°	10528	10339	10339
15°	10407	10122	10046
20°	10241	9836	9655
25°	10029	9502	9260
30°	9822	9149	8766
35°	9594	8784	8270
40°	9319	8368	7734
45°	9065	7955	7188
50°	8776	7479	6610
55°	8466	6984	5983
60°	8126	6442	5341
65°	7815	5765	4713
70°	7360	5016	4001
75°	6784	4161	3250
80°	5918	3166	2985
85°	5011	2881	2686



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.0	2.7
10°-20°	343.0	7.5
20°-30°	495.3	10.9
30°-40°	561.4	12.3
40°-50°	542.1	11.9
50°-60°	450.8	9.9
60°-70°	311.3	6.8
70°-80°	157.8	3.5
80°-90°	42.1	0.9
90°-100°	36.4	0.8
100°-110°	107.9	2.4
110°-120°	183.1	4.0
120°-130°	241.5	5.3
130°-140°	271.2	5.9
140°-150°	266.5	5.8
150°-160°	224.1	4.9
160°-170°	149.1	3.3
170°-180°	52.2	1.1
0°-30°	961.2	21.1
0°-40°	1522.6	33.4
0°-60°	2515.6	55.2
0°-90°	3026.8	66.4
90°-120°	327.5	7.2
90°-150°	1106.7	24.3
90°-180°	1532.0	33.6
0°-180°	4558.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1307	1303	1291	1301	1299	124
15°	1245	1235	1211	1209	1202	351
25°	1126	1106	1067	1050	1040	519
35°	974	940	891	858	839	608
45°	794	756	697	649	630	612
55°	602	560	496	446	425	538
65°	409	365	302	260	247	404
75°	218	180	133	111	104	230
85°	54	35	31	29	29	61
90°	1	6	9	12	13	4
95°	26	29	32	34	34	29
105°	100	100	102	103	104	106
115°	186	186	185	185	184	184
125°	271	271	271	270	269	242
135°	350	352	352	352	350	270
145°	425	427	427	427	425	266
155°	487	487	486	488	486	224
165°	530	529	528	530	529	149
175°	551	549	549	552	549	52
180°	552	552	552	552	552	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1312.6	1311.8	1311.1	1310.4	1309.7	1308.3	1306.4	1304.5	1302.5	1300.5	1302.5
5°	1307.3	1306.5	1305.5	1304.7	1303.7	1302.0	1299.3	1296.7	1293.9	1291.3	1293.5
7.5°	1295.5	1294.6	1293.6	1292.7	1291.8	1289.6	1286.1	1282.6	1279.1	1275.6	1277.1
10°	1284.3	1283.2	1282.0	1280.9	1279.8	1277.2	1273.3	1269.2	1265.3	1261.2	1262.1
12.5°	1269.8	1268.6	1267.2	1265.9	1264.7	1261.7	1257.0	1252.2	1247.5	1242.7	1243.3
15°	1245.2	1243.2	1241.1	1239.2	1237.2	1233.4	1227.8	1222.2	1216.6	1211.1	1210.6
17.5°	1215.3	1212.4	1209.5	1206.6	1203.7	1198.9	1192.2	1185.5	1178.8	1172.1	1170.9
20°	1192.0	1189.1	1186.3	1183.4	1180.4	1175.3	1167.6	1160.1	1152.4	1144.9	1143.1
22.5°	1166.4	1163.1	1159.9	1156.6	1153.4	1147.6	1139.5	1131.4	1123.3	1115.2	1112.6
25°	1125.9	1121.8	1117.9	1113.8	1109.8	1103.2	1094.1	1085.0	1075.8	1066.7	1062.9
27.5°	1083.4	1078.4	1073.3	1068.3	1063.2	1055.8	1046.0	1036.3	1026.5	1016.8	1012.1
30°	1053.7	1048.1	1042.5	1037.0	1031.4	1023.4	1013.0	1002.5	991.9	981.5	975.9
32.5°	1022.4	1016.2	1009.8	1003.5	997.3	988.7	977.9	967.0	956.2	945.4	939.0
35°	973.5	966.4	959.2	952.1	945.0	935.9	924.7	913.5	902.4	891.3	883.7
37.5°	921.1	913.8	906.4	899.1	891.7	881.9	869.6	857.2	844.9	832.5	824.1
40°	884.3	876.9	869.6	862.2	854.9	844.8	832.1	819.4	806.7	794.0	784.7
42.5°	848.9	841.2	833.6	825.9	818.1	807.7	794.5	781.2	768.0	754.7	745.2
45°	794.0	785.8	777.5	769.3	761.0	750.3	736.9	723.5	710.1	696.8	685.9
47.5°	737.3	728.8	720.3	711.7	703.2	692.0	678.2	664.2	650.4	636.4	625.1
50°	698.8	690.1	681.4	672.7	664.0	652.5	638.3	624.1	609.7	595.5	584.4
52.5°	659.5	651.0	642.4	634.0	625.5	613.9	599.3	584.7	570.0	555.4	544.1
55°	601.5	592.6	583.7	574.8	565.9	554.2	539.7	525.2	510.8	496.2	484.7
57.5°	544.2	534.9	525.7	516.4	507.1	495.3	481.1	466.8	452.6	438.3	426.6
60°	503.3	494.4	485.5	476.5	467.6	456.1	441.8	427.5	413.3	399.0	387.4
62.5°	466.4	457.1	447.9	438.6	429.3	417.4	402.7	388.1	373.5	358.9	348.2
65°	409.1	399.4	389.8	380.3	370.7	358.8	344.5	330.3	316.0	301.8	292.2
67.5°	349.5	340.4	331.1	322.0	312.7	301.6	288.3	275.1	261.8	248.6	240.3
70°	311.8	302.5	293.0	283.7	274.4	263.3	250.6	237.9	225.3	212.5	205.2
72.5°	271.7	263.3	254.8	246.3	237.8	227.6	215.7	203.6	191.6	179.6	173.3
75°	217.5	209.3	201.0	192.8	184.5	175.2	164.8	154.3	143.8	133.4	128.2
77.5°	162.6	155.6	148.6	141.7	134.6	126.9	118.5	110.0	101.5	93.0	90.0
80°	127.3	120.8	114.4	107.9	101.5	94.9	88.2	81.5	74.8	68.1	67.5
82.5°	96.9	91.0	85.0	79.1	73.1	68.2	64.5	60.6	56.7	53.0	52.4
85°	54.1	49.7	45.2	40.8	36.3	33.7	33.1	32.4	31.8	31.1	30.6
87.5°	18.7	17.5	16.3	15.1	13.9	13.2	13.2	13.2	13.1	13.1	13.0
90°	1.3	2.4	3.4	4.4	5.5	6.3	7.2	7.9	8.7	9.4	10.0
92.5°	9.1	10.4	11.5	12.7	13.9	14.8	15.4	15.8	16.4	16.9	17.2
95°	25.6	26.5	27.3	28.2	29.0	29.8	30.4	31.1	31.8	32.4	32.7
97.5°	44.8	45.4	46.1	46.8	47.5	48.3	49.0	49.8	50.5	51.4	51.7
100°	59.8	60.1	60.5	60.9	61.4	61.9	62.8	63.6	64.5	65.3	65.5
102.5°	75.5	75.7	75.8	76.0	76.2	76.6	77.4	78.1	78.9	79.7	79.9
105°	99.5	99.6	99.7	99.8	99.9	100.1	100.5	100.9	101.2	101.6	101.9
107.5°	124.7	124.8	125.0	125.1	125.2	125.3	125.4	125.4	125.5	125.5	125.7
110°	141.8	141.9	142.1	142.3	142.5	142.6	142.5	142.4	142.3	142.2	142.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.6	159.6	159.7	159.7	159.8	159.7	159.5	159.3	159.1	159.0	158.9
115°	186.2	186.2	186.2	186.2	186.2	186.2	186.0	185.8	185.6	185.4	185.3
117.5°	211.3	211.4	211.5	211.6	211.6	211.6	211.5	211.3	211.2	211.0	210.8
120°	228.1	228.5	228.8	229.2	229.6	229.6	229.3	229.0	228.8	228.5	228.0
122.5°	245.5	245.6	245.8	245.9	246.1	246.1	246.0	245.8	245.7	245.6	245.2
125°	271.2	271.2	271.2	271.2	271.2	271.2	271.1	271.0	270.9	270.8	270.6
127.5°	294.5	294.8	295.1	295.4	295.7	295.8	295.6	295.4	295.3	295.1	294.9
130°	310.9	311.2	311.5	311.8	312.1	312.2	312.2	312.2	312.2	312.2	312.0
132.5°	327.6	327.9	328.1	328.3	328.5	328.6	328.5	328.4	328.4	328.3	328.1
135°	349.8	350.3	350.9	351.5	352.0	352.3	352.3	352.3	352.3	352.3	352.1
137.5°	373.9	374.2	374.4	374.7	374.9	375.1	375.3	375.5	375.6	375.8	375.5
140°	389.9	390.1	390.3	390.5	390.7	390.8	390.8	390.8	390.8	390.8	390.7
142.5°	404.6	404.8	405.0	405.2	405.4	405.5	405.4	405.3	405.2	405.1	405.1
145°	425.0	425.4	425.7	426.1	426.5	426.7	426.8	426.9	427.0	427.1	427.0
147.5°	445.2	445.5	446.0	446.5	447.0	447.1	447.0	447.0	447.0	446.9	446.8
150°	457.4	457.8	458.2	458.5	458.9	459.1	459.1	459.1	459.1	459.1	459.1
152.5°	469.0	469.3	469.5	469.8	470.0	470.1	470.1	470.2	470.3	470.4	470.6
155°	486.9	486.9	486.9	486.9	486.9	486.8	486.7	486.6	486.5	486.4	486.8
157.5°	501.9	501.7	501.6	501.4	501.2	501.1	501.1	501.1	501.1	501.1	501.3
160°	510.9	510.8	510.7	510.6	510.5	510.4	510.3	510.2	510.1	510.0	510.3
162.5°	519.1	518.8	518.5	518.3	518.0	517.8	517.7	517.6	517.6	517.5	518.0
165°	530.0	529.7	529.4	529.1	528.9	528.7	528.5	528.3	528.1	527.9	528.5
167.5°	538.5	538.1	537.7	537.3	536.9	536.7	536.7	536.8	536.8	536.8	537.3
170°	543.3	542.8	542.3	541.9	541.4	541.2	541.3	541.4	541.5	541.6	542.2
172.5°	546.7	546.3	545.9	545.5	545.1	544.9	544.9	545.0	545.0	545.0	545.6
175°	551.4	550.9	550.4	550.0	549.5	549.2	549.1	549.0	548.9	548.8	549.5
177.5°	552.9	552.5	552.1	551.8	551.4	551.2	551.2	551.2	551.2	551.2	551.8
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1304.5	1306.4	1308.3	1309.3	1309.1	1308.9	1308.7	1308.5
5°	1295.7	1298.0	1300.2	1301.1	1300.6	1300.2	1299.8	1299.3
7.5°	1278.5	1280.0	1281.4	1281.7	1281.0	1280.3	1279.6	1278.8
10°	1263.0	1263.9	1264.8	1264.8	1263.9	1263.0	1262.1	1261.2
12.5°	1243.9	1244.3	1244.9	1244.5	1243.3	1242.1	1240.8	1239.5
15°	1210.2	1209.8	1209.3	1208.3	1206.7	1205.1	1203.6	1202.0
17.5°	1169.7	1168.5	1167.2	1165.4	1163.0	1160.6	1158.3	1155.9
20°	1141.3	1139.5	1137.7	1135.5	1132.6	1129.6	1126.7	1123.9
22.5°	1109.9	1107.2	1104.6	1102.0	1099.7	1097.3	1095.0	1092.6
25°	1059.1	1055.4	1051.6	1048.6	1046.3	1044.1	1041.9	1039.6
27.5°	1007.4	1002.8	998.1	994.1	990.9	987.7	984.5	981.3
30°	970.3	964.8	959.2	954.6	951.1	947.5	944.0	940.4
32.5°	932.5	926.0	919.5	914.6	911.3	907.9	904.5	901.1
35°	876.1	868.6	861.0	855.2	851.2	847.2	843.1	839.1
37.5°	815.6	807.1	798.6	792.4	788.4	784.4	780.4	776.4
40°	775.3	765.9	756.6	749.9	745.9	741.9	737.9	733.9
42.5°	735.7	726.1	716.6	709.7	705.5	701.3	697.2	693.0
45°	675.0	664.0	653.1	645.6	641.6	637.6	633.6	629.6
47.5°	613.8	602.5	591.2	583.2	578.9	574.5	570.0	565.6
50°	573.3	562.1	550.9	543.3	539.0	534.8	530.6	526.3
52.5°	532.8	521.5	510.1	502.3	497.9	493.4	489.1	484.7
55°	473.1	461.5	450.0	442.1	437.8	433.6	429.3	425.1
57.5°	414.8	403.0	391.2	383.8	380.6	377.4	374.2	371.0
60°	375.9	364.3	352.7	345.1	341.6	338.0	334.4	330.8
62.5°	337.5	326.9	316.1	309.3	306.5	303.7	300.8	297.9
65°	282.6	273.1	263.4	257.3	254.7	251.9	249.3	246.7
67.5°	232.1	223.9	215.7	210.1	207.2	204.2	201.2	198.3
70°	197.8	190.5	183.1	178.3	176.2	173.9	171.6	169.5
72.5°	167.1	160.8	154.5	150.3	148.4	146.3	144.2	142.1
75°	123.1	118.0	112.8	109.6	108.3	107.0	105.6	104.2
77.5°	87.1	84.1	81.1	79.4	79.0	78.6	78.2	77.8
80°	66.8	66.2	65.5	65.0	64.8	64.6	64.4	64.2
82.5°	51.9	51.5	51.0	50.6	50.4	50.1	50.0	49.8
85°	30.2	29.8	29.3	29.0	29.0	29.0	29.0	29.0
87.5°	13.0	12.9	12.8	12.9	13.1	13.4	13.6	13.8
90°	10.6	11.1	11.7	12.1	12.3	12.4	12.6	12.8
92.5°	17.6	17.9	18.3	18.5	18.7	18.8	18.9	18.9
95°	33.0	33.3	33.6	33.7	33.7	33.7	33.7	33.7
97.5°	52.0	52.4	52.7	52.9	52.9	52.9	52.9	52.9
100°	65.7	65.9	66.1	66.2	66.2	66.2	66.2	66.2
102.5°	80.2	80.5	80.8	81.0	81.0	81.1	81.2	81.2
105°	102.3	102.5	102.8	103.1	103.4	103.7	104.0	104.2
107.5°	126.0	126.3	126.6	126.7	126.7	126.7	126.6	126.6
110°	141.9	141.7	141.5	141.5	141.8	142.0	142.3	142.6





TEST NUMBER: P333058-830

CATALOG NUMBER: S124RDIW-S795D470U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	158.9	158.8	158.8	158.8	158.9	158.9	159.0	159.0
115°	185.2	185.1	185.0	184.9	184.8	184.7	184.6	184.5
117.5°	210.5	210.1	209.8	209.5	209.3	209.2	209.0	208.8
120°	227.5	227.1	226.6	226.5	226.7	226.9	227.1	227.2
122.5°	245.0	244.6	244.3	243.9	243.6	243.3	242.9	242.6
125°	270.4	270.2	270.0	269.8	269.7	269.5	269.3	269.1
127.5°	294.7	294.5	294.4	294.2	294.1	293.9	293.8	293.6
130°	311.8	311.6	311.4	311.1	310.8	310.4	310.0	309.6
132.5°	327.9	327.7	327.5	327.3	327.2	327.1	326.9	326.8
135°	351.9	351.8	351.6	351.4	351.1	350.8	350.5	350.2
137.5°	375.2	375.0	374.8	374.7	374.8	374.8	374.8	374.9
140°	390.6	390.5	390.4	390.3	390.2	390.1	390.0	389.9
142.5°	405.1	405.1	405.1	405.0	405.0	405.0	405.0	405.0
145°	426.9	426.8	426.7	426.5	426.2	425.9	425.7	425.4
147.5°	446.7	446.6	446.6	446.5	446.4	446.3	446.2	446.1
150°	459.1	459.1	459.1	459.1	459.0	458.9	458.8	458.7
152.5°	470.9	471.1	471.4	471.3	471.1	470.8	470.6	470.3
155°	487.2	487.6	488.0	488.0	487.6	487.2	486.8	486.4
157.5°	501.6	501.9	502.2	502.2	501.9	501.5	501.2	500.9
160°	510.6	510.9	511.1	511.0	510.6	510.1	509.5	509.1
162.5°	518.5	519.1	519.5	519.5	519.1	518.6	518.1	517.6
165°	529.0	529.6	530.2	530.3	529.9	529.5	529.1	528.8
167.5°	537.9	538.5	539.0	539.0	538.5	537.9	537.2	536.7
170°	542.7	543.3	543.8	543.8	543.1	542.4	541.8	541.1
172.5°	546.3	547.0	547.5	547.5	546.9	546.2	545.5	544.9
175°	550.2	550.8	551.5	551.5	550.8	550.2	549.5	548.8
177.5°	552.3	552.8	553.4	553.3	552.7	552.1	551.5	550.9
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2

(END OF REPORT)