

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: P332929-830

Luminaire Tested: **S124RDIP-S795D365U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332929-830  
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: S124RDIP-S795D365U830-4F0-1E-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: 4221.2 lumens  
Efficiency: N/A  
Efficacy: 120.6 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

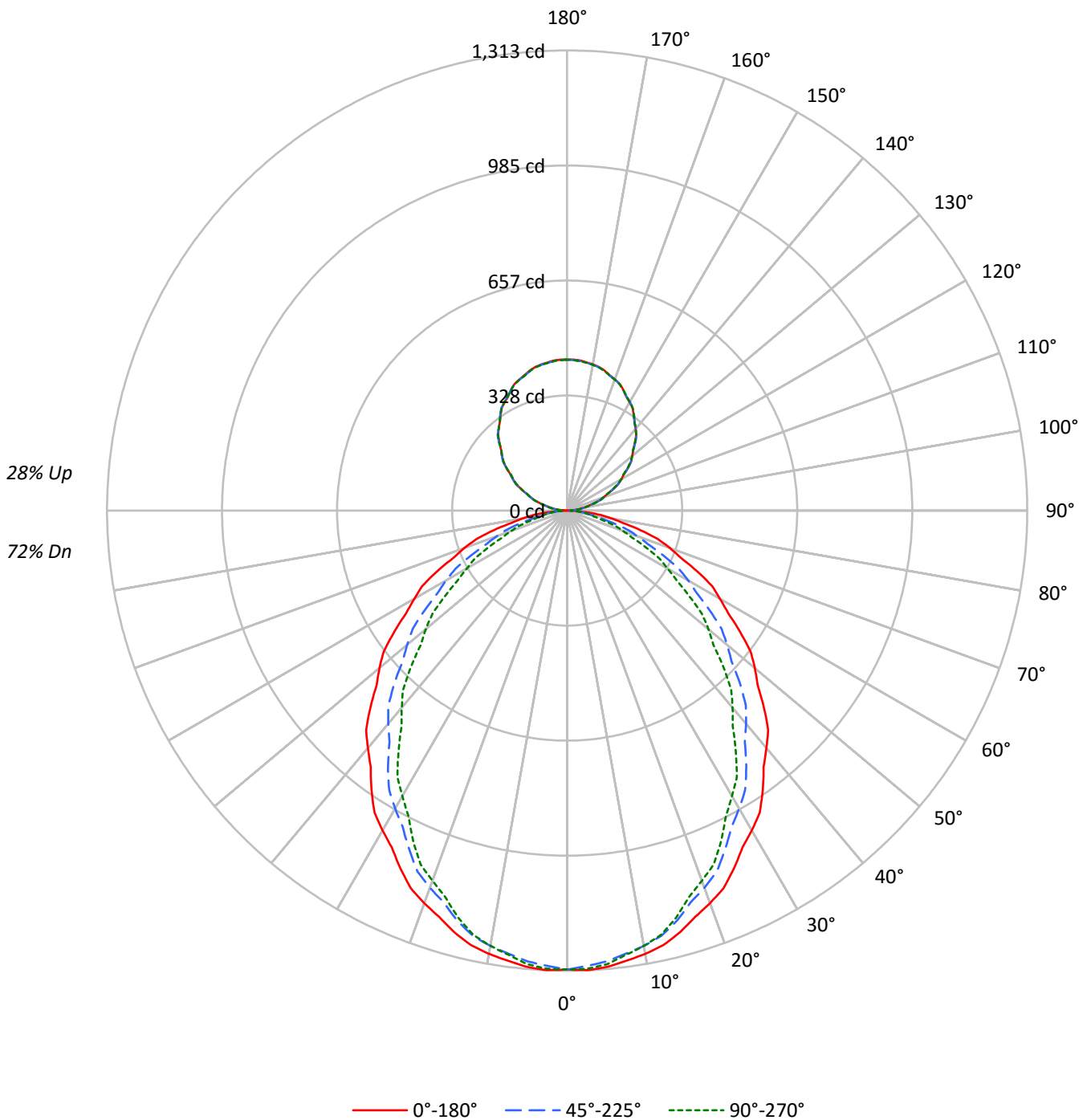
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

**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	2.9
10°-20°	343.0	8.1
20°-30°	495.3	11.7
30°-40°	561.4	13.3
40°-50°	542.1	12.8
50°-60°	450.8	10.7
60°-70°	311.3	7.4
70°-80°	157.8	3.7
80°-90°	41.8	1.0
90°-100°	28.4	0.7
100°-110°	84.2	2.0
110°-120°	142.8	3.4
120°-130°	188.3	4.5
130°-140°	211.5	5.0
140°-150°	207.8	4.9
150°-160°	174.8	4.1
160°-170°	116.3	2.8
170°-180°	40.7	1.0
0°-30°	961.2	22.8
0°-40°	1522.6	36.1
0°-60°	2515.6	59.6
0°-90°	3026.4	71.7
90°-120°	255.4	6.0
90°-150°	863.0	20.4
90°-180°	1195.0	28.3
0°-180°	4221.2	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	5	7	9	10	4
95°	20	23	25	26	26	22
105°	78	78	79	80	81	82
115°	145	145	145	144	144	143
125°	212	211	211	210	210	188
135°	273	275	275	274	273	211
145°	331	333	333	333	332	207
155°	380	380	379	380	379	175
165°	413	412	412	413	412	116
175°	430	428	428	430	428	41
180°	431	431	431	431	431	



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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	17.3	16.1	14.9	13.6	12.9	12.9	12.8	12.7	12.7	12.6
90°	1.0	1.8	2.6	3.5	4.2	5.0	5.6	6.1	6.7	7.4	7.7
92.5°	7.2	8.1	9.0	9.9	10.8	11.5	12.0	12.3	12.8	13.2	13.5
95°	20.0	20.6	21.3	22.0	22.6	23.3	23.8	24.3	24.8	25.4	25.5
97.5°	34.9	35.4	36.0	36.5	37.0	37.6	38.2	38.8	39.4	40.1	40.3
100°	46.7	46.9	47.2	47.5	47.8	48.3	48.9	49.7	50.3	51.0	51.1
102.5°	58.9	59.0	59.1	59.3	59.4	59.8	60.3	61.0	61.5	62.1	62.4
105°	77.6	77.7	77.8	77.9	77.9	78.0	78.4	78.7	79.0	79.3	79.5
107.5°	97.3	97.4	97.5	97.6	97.6	97.6	97.7	97.7	97.8	97.8	98.0
110°	110.6	110.7	110.8	111.0	111.1	111.2	111.1	111.0	110.9	110.9	110.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	124.4	124.4	124.5	124.5	124.5	124.5	124.3	124.2	124.1	123.9	123.9
115°	145.2	145.2	145.2	145.2	145.2	145.2	145.0	144.9	144.7	144.6	144.5
117.5°	164.8	164.9	164.9	164.9	165.0	165.0	164.9	164.9	164.7	164.6	164.4
120°	177.9	178.1	178.4	178.7	179.1	179.1	178.9	178.6	178.4	178.2	177.9
122.5°	191.4	191.5	191.7	191.8	191.9	191.9	191.8	191.7	191.6	191.5	191.2
125°	211.5	211.5	211.5	211.5	211.5	211.4	211.4	211.3	211.2	211.1	211.0
127.5°	229.7	229.9	230.2	230.4	230.5	230.6	230.5	230.4	230.3	230.2	230.0
130°	242.5	242.7	242.9	243.2	243.4	243.5	243.5	243.5	243.5	243.5	243.4
132.5°	255.5	255.7	255.8	256.0	256.2	256.2	256.2	256.1	256.1	256.0	255.8
135°	272.8	273.2	273.6	274.1	274.6	274.8	274.8	274.8	274.8	274.8	274.7
137.5°	291.5	291.8	292.0	292.2	292.4	292.6	292.7	292.8	292.9	293.0	292.8
140°	304.1	304.3	304.3	304.5	304.7	304.7	304.7	304.7	304.7	304.7	304.7
142.5°	315.6	315.7	315.8	315.9	316.1	316.2	316.1	316.0	316.0	315.9	315.9
145°	331.4	331.7	332.0	332.2	332.6	332.8	332.8	332.9	333.0	333.1	333.0
147.5°	347.1	347.5	347.8	348.2	348.6	348.6	348.6	348.6	348.6	348.5	348.4
150°	356.8	357.0	357.3	357.6	357.9	358.1	358.1	358.1	358.1	358.1	358.1
152.5°	365.8	366.0	366.1	366.3	366.5	366.6	366.6	366.7	366.7	366.8	367.0
155°	379.7	379.7	379.7	379.7	379.7	379.7	379.6	379.5	379.5	379.4	379.7
157.5°	391.4	391.2	391.2	391.1	390.9	390.8	390.8	390.8	390.8	390.8	391.0
160°	398.3	398.2	398.2	398.1	398.0	397.9	397.9	397.8	397.8	397.7	397.9
162.5°	404.7	404.5	404.4	404.2	404.0	403.9	403.8	403.7	403.6	403.5	404.0
165°	413.3	413.1	412.9	412.6	412.5	412.3	412.1	412.0	411.8	411.7	412.1
167.5°	419.9	419.6	419.3	419.0	418.7	418.5	418.6	418.6	418.6	418.6	419.1
170°	423.7	423.3	422.9	422.5	422.2	422.1	422.1	422.2	422.3	422.4	422.7
172.5°	426.3	426.0	425.7	425.4	425.1	424.9	424.9	425.0	425.0	425.0	425.5
175°	430.0	429.6	429.2	428.9	428.5	428.3	428.2	428.1	428.1	428.0	428.5
177.5°	431.2	430.9	430.6	430.3	430.0	429.9	429.9	429.9	429.9	429.9	430.3
180°	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6



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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°	12.5	12.4	12.3	12.4	12.6	12.8	13.0	13.2
90°	8.2	8.7	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	13.8	13.9	14.2	14.4	14.5	14.6	14.7	14.8
95°	25.7	26.0	26.2	26.3	26.3	26.3	26.3	26.3
97.5°	40.5	40.8	41.1	41.2	41.2	41.2	41.2	41.2
100°	51.3	51.4	51.6	51.7	51.7	51.7	51.7	51.7
102.5°	62.6	62.8	63.0	63.2	63.2	63.2	63.2	63.3
105°	79.7	79.9	80.1	80.4	80.6	80.9	81.1	81.2
107.5°	98.3	98.5	98.7	98.8	98.8	98.8	98.8	98.7
110°	110.7	110.5	110.3	110.4	110.6	110.8	111.0	111.2





TEST NUMBER: P332929-830

CATALOG NUMBER: S124RDIP-S795D365U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	123.9	123.9	123.9	123.9	123.9	123.9	123.9	124.0
115°	144.4	144.3	144.2	144.2	144.1	144.0	143.9	143.9
117.5°	164.1	163.8	163.6	163.4	163.2	163.1	163.0	162.8
120°	177.5	177.1	176.7	176.6	176.7	176.9	177.0	177.2
122.5°	191.1	190.8	190.5	190.2	190.0	189.7	189.5	189.2
125°	210.8	210.8	210.6	210.4	210.3	210.1	210.0	209.8
127.5°	229.9	229.7	229.5	229.4	229.3	229.2	229.0	228.9
130°	243.2	243.0	242.9	242.6	242.3	242.0	241.8	241.5
132.5°	255.7	255.5	255.4	255.2	255.1	255.1	255.0	254.8
135°	274.5	274.4	274.2	274.0	273.8	273.5	273.3	273.1
137.5°	292.7	292.5	292.3	292.2	292.2	292.3	292.3	292.4
140°	304.6	304.5	304.4	304.3	304.3	304.3	304.2	304.1
142.5°	315.9	315.9	315.8	315.8	315.8	315.8	315.8	315.8
145°	332.9	332.8	332.8	332.6	332.4	332.2	332.0	331.8
147.5°	348.4	348.3	348.2	348.2	348.1	348.0	347.9	347.9
150°	358.1	358.1	358.1	358.0	358.0	357.9	357.8	357.7
152.5°	367.2	367.4	367.6	367.5	367.3	367.1	366.9	366.7
155°	379.9	380.2	380.5	380.5	380.2	379.9	379.7	379.4
157.5°	391.2	391.4	391.6	391.6	391.3	391.2	390.9	390.6
160°	398.1	398.3	398.6	398.5	398.1	397.8	397.4	397.0
162.5°	404.4	404.7	405.1	405.1	404.8	404.4	404.1	403.7
165°	412.6	413.0	413.4	413.5	413.2	412.9	412.6	412.4
167.5°	419.5	419.9	420.4	420.4	419.9	419.4	419.0	418.5
170°	423.2	423.7	424.1	424.0	423.6	423.0	422.5	422.0
172.5°	426.0	426.5	427.0	427.0	426.5	425.9	425.5	424.9
175°	429.0	429.5	430.1	430.1	429.5	429.0	428.5	428.0
177.5°	430.6	431.1	431.5	431.5	431.0	430.6	430.1	429.6
180°	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6

(END OF REPORT)