

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: P333057-830

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333057-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
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-F  
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, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4793.4 lumens  
Efficiency: N/A  
Efficacy: 127.1 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

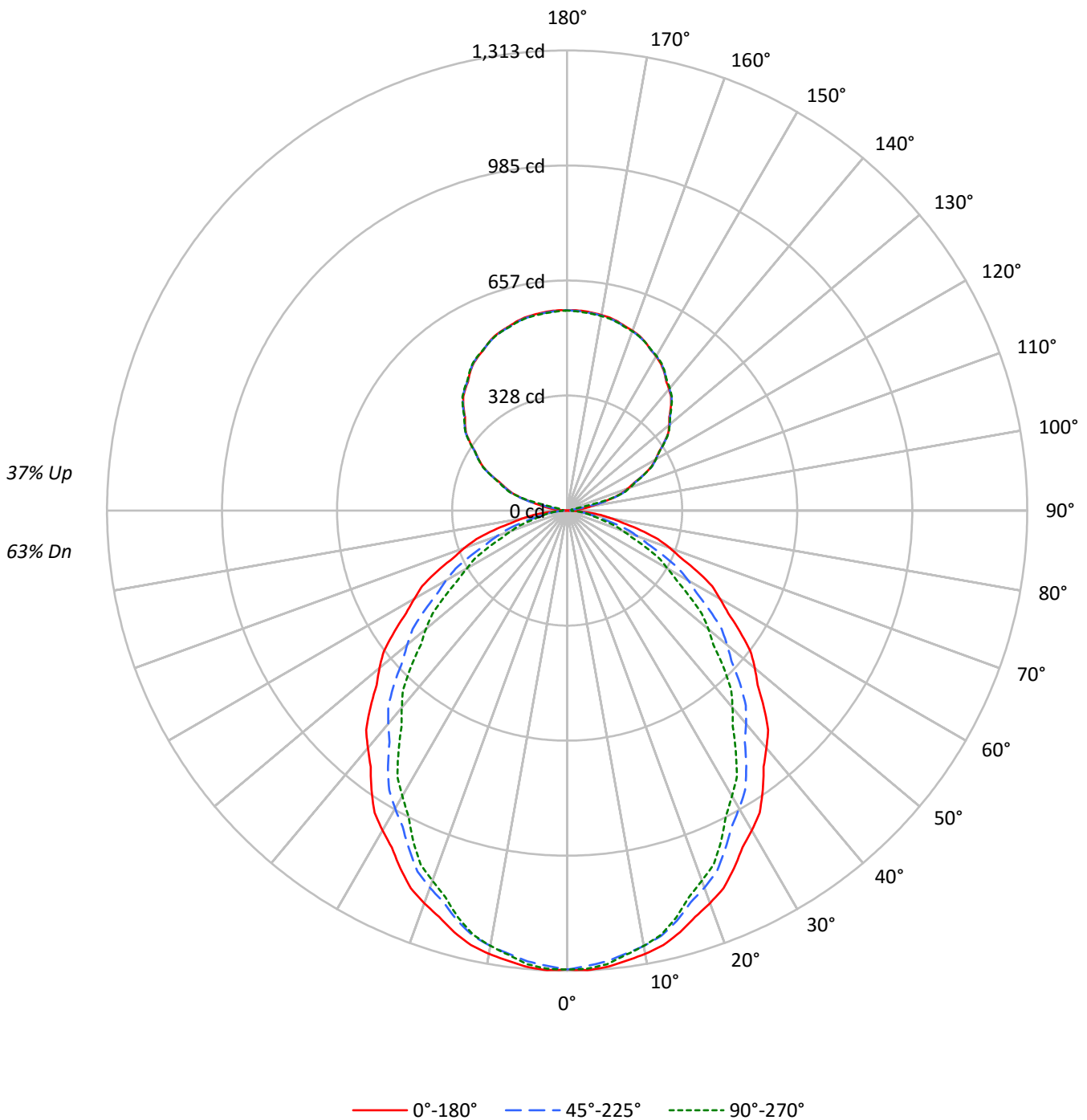
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
RC	80									70									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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63																			
1	101	97	93	90	95	91	88	85	80	78	75	70	68	67	61	60	58	54																			
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	52	50	46																			
3	84	75	68	62	79	71	64	59	63	57	53	55	51	48	48	45	43	39																			
4	77	67	59	53	72	63	56	50	56	50	46	49	45	41	43	40	37	34																			
5	71	60	51	45	67	56	49	43	50	44	40	44	40	36	39	35	32	29																			
6	66	54	45	40	62	51	43	38	45	39	35	40	35	32	36	32	29	26																			
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	33	29	26	23																			
8	57	44	36	31	53	42	35	30	38	32	28	34	29	25	30	26	23	21																			
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	28	24	21	19																			
10	49	37	30	25	47	36	29	24	32	26	23	29	24	21	26	22	19	17																			

**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	2.6
10°-20°	343.0	7.2
20°-30°	495.3	10.3
30°-40°	561.4	11.7
40°-50°	542.1	11.3
50°-60°	450.8	9.4
60°-70°	311.3	6.5
70°-80°	157.8	3.3
80°-90°	42.1	0.9
90°-100°	19.5	0.4
100°-110°	124.6	2.6
110°-120°	238.3	5.0
120°-130°	302.4	6.3
130°-140°	323.6	6.8
140°-150°	302.6	6.3
150°-160°	244.0	5.1
160°-170°	157.4	3.3
170°-180°	54.2	1.1
0°-30°	961.2	20.1
0°-40°	1522.6	31.8
0°-60°	2515.6	52.5
0°-90°	3026.8	63.1
90°-120°	382.4	8.0
90°-150°	1311.0	27.3
90°-180°	1767.0	36.9
0°-180°	4793.4	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°	24	10	9	12	12	30
105°	129	131	133	136	122	135
115°	240	241	241	242	242	236
125°	337	339	338	340	340	301
135°	419	418	420	421	422	322
145°	483	484	484	484	485	301
155°	529	530	528	530	529	244
165°	558	556	556	559	556	158
175°	571	569	569	572	568	54
180°	571	571	571	571	571	



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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°	5.4	5.5	5.5	5.6	5.7	6.0	6.8	7.5	8.3	9.0	9.6
95°	23.5	20.3	17.1	13.9	10.6	9.0	9.1	9.2	9.3	9.4	10.0
97.5°	49.9	51.9	53.9	55.9	58.0	53.6	43.1	32.4	21.9	11.3	11.3
100°	70.0	71.7	73.5	75.2	76.9	71.2	58.1	45.0	31.9	18.8	17.2
102.5°	92.7	93.9	95.1	96.3	97.6	97.4	95.7	94.0	92.3	90.6	73.1
105°	128.6	129.1	129.7	130.3	130.8	131.4	131.9	132.3	132.8	133.3	134.1
107.5°	162.0	162.3	162.6	162.9	163.2	163.6	164.2	164.9	165.5	166.2	166.5
110°	184.5	184.8	185.1	185.4	185.7	186.1	186.6	187.3	187.8	188.4	188.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	206.4	206.9	207.5	207.9	208.5	208.9	209.2	209.3	209.6	209.9	209.9
115°	240.1	240.3	240.6	240.9	241.2	241.3	241.2	241.1	241.0	240.9	241.1
117.5°	270.4	270.8	271.2	271.5	271.9	272.2	272.4	272.6	272.9	273.1	273.0
120°	290.9	291.2	291.6	292.0	292.4	292.6	292.5	292.4	292.3	292.2	292.4
122.5°	310.0	310.3	310.5	310.8	310.9	311.1	311.2	311.4	311.5	311.7	311.8
125°	337.4	337.8	338.2	338.6	338.9	339.0	338.8	338.7	338.5	338.3	338.6
127.5°	363.4	363.5	363.6	363.7	363.8	364.1	364.5	365.0	365.4	365.8	365.8
130°	380.1	380.2	380.4	380.5	380.6	380.8	381.1	381.4	381.6	381.9	382.0
132.5°	395.6	395.7	395.9	396.1	396.2	396.5	396.9	397.2	397.6	397.9	398.0
135°	418.6	418.5	418.4	418.3	418.2	418.4	418.8	419.1	419.5	419.9	420.1
137.5°	439.0	439.0	439.1	439.1	439.2	439.4	439.8	440.3	440.6	441.1	441.3
140°	452.3	452.5	452.7	452.9	453.1	453.3	453.5	453.7	453.9	454.1	454.4
142.5°	464.3	464.7	465.1	465.3	465.7	465.9	466.0	466.2	466.3	466.4	466.6
145°	482.7	483.0	483.2	483.5	483.8	484.0	484.0	484.0	484.0	484.0	484.1
147.5°	497.3	497.9	498.3	498.9	499.5	499.6	499.5	499.5	499.4	499.3	499.4
150°	507.9	508.3	508.7	509.1	509.4	509.5	509.4	509.3	509.3	509.2	509.2
152.5°	516.8	517.1	517.4	517.6	518.0	518.0	517.9	517.7	517.6	517.4	517.6
155°	529.2	529.3	529.4	529.5	529.6	529.5	529.2	529.0	528.7	528.4	528.8
157.5°	539.8	539.7	539.6	539.6	539.5	539.3	539.0	538.7	538.4	538.1	538.6
160°	545.9	545.6	545.4	545.1	544.8	544.6	544.5	544.4	544.3	544.2	544.8
162.5°	551.4	551.0	550.6	550.3	550.0	549.7	549.6	549.5	549.4	549.3	549.9
165°	558.3	557.8	557.3	556.9	556.4	556.2	556.2	556.2	556.2	556.2	556.9
167.5°	563.7	563.3	562.8	562.3	561.8	561.5	561.5	561.4	561.4	561.3	562.1
170°	566.8	566.3	565.7	565.1	564.6	564.3	564.4	564.5	564.6	564.7	565.4
172.5°	568.9	568.4	567.8	567.2	566.7	566.4	566.5	566.6	566.7	566.8	567.5
175°	571.1	570.5	570.0	569.4	568.8	568.6	568.7	568.8	568.9	569.0	569.9
177.5°	572.1	571.7	571.1	570.5	570.0	569.9	570.0	570.1	570.2	570.4	571.0
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1



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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°	10.2	10.7	11.3	11.6	11.7	11.7	11.8	11.8
95°	10.6	11.1	11.7	12.0	12.1	12.2	12.3	12.3
97.5°	11.4	11.4	11.5	11.6	11.7	11.8	11.9	12.0
100°	15.6	13.9	12.3	11.6	11.7	11.8	11.9	12.0
102.5°	55.7	38.4	20.9	12.3	12.3	12.3	12.3	12.3
105°	135.0	135.8	136.7	135.4	132.0	128.6	125.2	121.8
107.5°	167.0	167.4	167.9	168.2	168.6	168.9	169.3	169.7
110°	188.8	189.0	189.2	189.4	189.6	189.9	190.2	190.5





TEST NUMBER: P333057-830

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	209.8	209.8	209.7	209.9	210.3	210.7	211.0	211.3
115°	241.3	241.5	241.7	241.8	241.8	241.8	241.8	241.8
117.5°	273.0	273.0	272.9	272.9	272.8	272.8	272.8	272.7
120°	292.6	292.8	292.9	292.9	292.8	292.6	292.4	292.2
122.5°	311.9	312.0	312.1	312.1	311.9	311.7	311.5	311.3
125°	338.8	339.1	339.4	339.6	339.7	339.8	339.9	340.0
127.5°	365.7	365.6	365.6	365.5	365.4	365.3	365.3	365.2
130°	382.1	382.2	382.3	382.3	382.3	382.3	382.3	382.3
132.5°	398.1	398.2	398.3	398.3	398.2	398.2	398.1	398.0
135°	420.3	420.5	420.7	420.8	421.0	421.2	421.4	421.6
137.5°	441.5	441.7	442.0	442.0	442.0	441.9	441.9	441.8
140°	454.7	455.0	455.2	455.4	455.5	455.6	455.7	455.8
142.5°	466.7	467.0	467.2	467.3	467.3	467.4	467.4	467.4
145°	484.2	484.3	484.4	484.5	484.7	484.8	485.0	485.2
147.5°	499.5	499.5	499.5	499.6	499.7	499.8	499.9	500.0
150°	509.2	509.2	509.2	509.3	509.3	509.4	509.5	509.6
152.5°	517.6	517.8	518.0	518.0	518.0	517.9	517.8	517.8
155°	529.1	529.5	529.9	530.0	529.7	529.4	529.1	528.9
157.5°	539.0	539.5	540.0	540.0	539.5	539.0	538.6	538.1
160°	545.4	545.9	546.5	546.5	545.9	545.4	544.8	544.2
162.5°	550.4	551.0	551.6	551.6	550.9	550.3	549.6	549.0
165°	557.7	558.5	559.2	559.1	558.3	557.4	556.6	555.7
167.5°	563.0	563.8	564.7	564.6	563.6	562.7	561.8	560.8
170°	566.2	566.9	567.8	567.7	566.7	565.7	564.8	563.8
172.5°	568.3	569.0	569.8	569.7	568.6	567.6	566.6	565.5
175°	570.7	571.6	572.4	572.2	571.1	570.0	568.8	567.7
177.5°	571.7	572.2	572.9	572.7	571.8	570.9	570.0	569.1
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1

(END OF REPORT)