

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: P331827-940

Luminaire Tested: **S122RDIW-S865D435U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331827-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D435U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4234.1 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

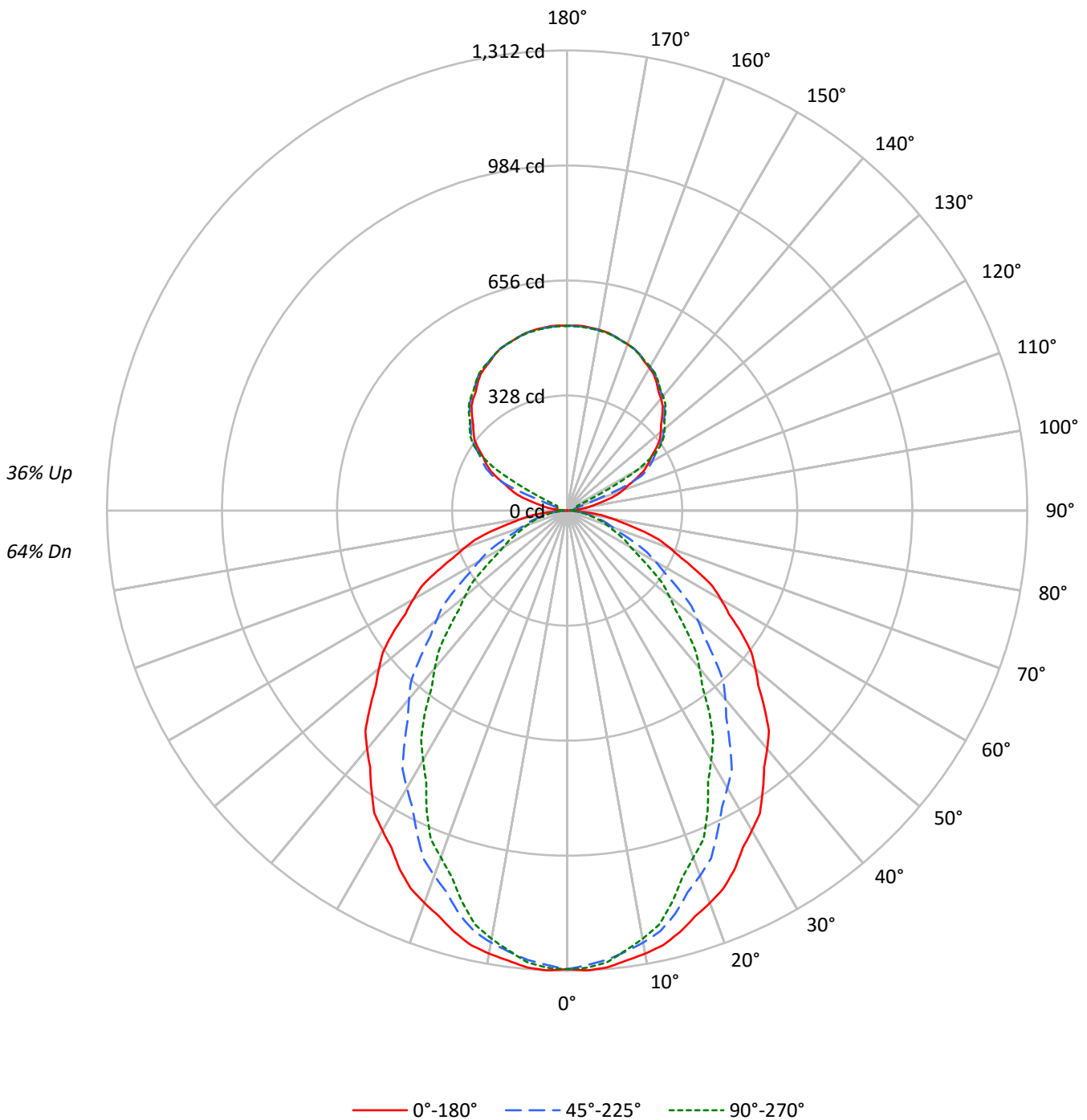
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	62	60	59	55
2	93	86	80	75	87	81	75	71	71	67	64	63	60	57	55	53	51	47
3	85	76	69	63	80	72	65	60	64	59	54	56	52	49	49	46	44	40
4	78	68	60	54	73	64	57	52	57	51	47	50	46	43	44	41	38	35
5	72	61	53	47	68	57	50	45	51	46	41	46	41	37	40	37	34	31
6	67	55	47	41	63	52	45	39	47	41	36	42	37	33	37	33	30	28
7	62	50	42	36	58	47	40	35	42	37	32	38	33	30	34	30	27	25
8	58	45	38	32	54	43	36	31	39	33	29	35	30	27	31	27	24	22
9	54	42	34	29	51	40	33	28	36	30	26	32	28	24	29	25	22	20
10	50	38	31	26	47	37	30	25	33	28	24	30	25	22	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21111	21111	21111
5°	21191	20846	20960
10°	21028	20505	20330
15°	20787	19896	19323
20°	20452	19029	18076
25°	20110	18045	16864
30°	19634	17031	15310
35°	19170	15930	13947
40°	18704	14790	12370
45°	18155	13511	10942
50°	17595	12215	9540
55°	17022	10826	8194
60°	16353	9361	6801
65°	15595	7866	6193
70°	14691	6477	5693
75°	13587	5908	5315
80°	11985	5281	4844
85°	9429	4168	4168



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	2.9
10°-20°	336.0	7.9
20°-30°	471.9	11.1
30°-40°	514.6	12.2
40°-50°	473.1	11.2
50°-60°	371.6	8.8
60°-70°	242.3	5.7
70°-80°	124.9	3.0
80°-90°	33.7	0.8
90°-100°	17.6	0.4
100°-110°	64.4	1.5
110°-120°	172.2	4.1
120°-130°	284.3	6.7
130°-140°	302.4	7.1
140°-150°	281.0	6.6
150°-160°	225.9	5.3
160°-170°	145.6	3.4
170°-180°	50.1	1.2
0°-30°	930.3	22.0
0°-40°	1444.9	34.1
0°-60°	2289.6	54.1
0°-90°	2690.5	63.5
90°-120°	254.2	6.0
90°-150°	1121.9	26.5
90°-180°	1544.0	36.5
0°-180°	4234.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1308	1301	1286	1296	1293	124
15°	1244	1229	1190	1168	1156	350
25°	1129	1089	1013	966	947	519
35°	973	910	808	736	708	608
45°	795	713	592	511	479	614
55°	605	510	385	316	291	540
65°	408	312	206	168	162	405
75°	218	137	95	87	85	230
85°	51	27	22	22	22	60
90°	0	4	8	9	10	3
95°	25	13	15	17	16	30
105°	116	121	23	27	29	124
115°	219	226	235	67	31	216
125°	310	315	322	325	326	276
135°	383	389	393	396	396	296
145°	445	445	451	453	452	278
155°	490	487	491	493	490	226
165°	516	514	515	517	515	146
175°	528	525	526	528	525	50
180°	527	527	527	527	527	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1312.2	1311.2	1310.1	1309.0	1308.1	1306.4	1304.0	1301.7	1299.4	1297.1	1299.2
5°	1307.5	1306.2	1304.8	1303.5	1302.3	1299.8	1296.5	1293.1	1289.6	1286.2	1288.5
7.5°	1294.0	1292.4	1290.8	1289.1	1287.5	1284.7	1280.7	1276.7	1272.6	1268.6	1269.4
10°	1282.6	1280.8	1279.0	1277.1	1275.2	1271.8	1266.5	1261.2	1256.0	1250.7	1249.9
12.5°	1268.5	1266.1	1263.9	1261.7	1259.4	1254.9	1248.1	1241.4	1234.7	1228.0	1226.5
15°	1243.6	1240.7	1237.8	1234.9	1232.0	1226.1	1217.2	1208.3	1199.3	1190.3	1185.4
17.5°	1213.1	1208.6	1204.3	1199.8	1195.4	1187.5	1176.0	1164.5	1153.1	1141.6	1135.7
20°	1190.3	1185.1	1179.8	1174.6	1169.3	1160.1	1146.9	1133.8	1120.7	1107.5	1100.9
22.5°	1165.7	1159.8	1154.0	1148.1	1142.2	1131.8	1117.0	1102.2	1087.4	1072.5	1064.0
25°	1128.8	1120.4	1112.0	1103.6	1095.2	1082.3	1064.9	1047.6	1030.2	1012.9	1002.1
27.5°	1084.3	1075.1	1066.0	1056.9	1047.8	1033.4	1013.8	994.3	974.6	955.1	942.5
30°	1053.1	1043.1	1033.1	1023.1	1013.2	997.6	976.6	955.6	934.5	913.5	900.1
32.5°	1022.8	1011.1	999.4	987.7	976.1	959.6	938.1	916.6	895.2	873.7	858.4
35°	972.6	959.2	945.8	932.4	919.0	900.7	877.5	854.4	831.3	808.2	791.6
37.5°	922.5	907.8	893.0	878.2	863.5	843.8	819.2	794.5	769.9	745.2	726.9
40°	887.4	871.6	855.9	840.1	824.3	803.7	778.2	752.7	727.2	701.7	683.0
42.5°	851.5	834.8	818.2	801.6	785.0	763.5	737.2	710.8	684.5	658.1	638.8
45°	795.1	777.5	759.9	742.3	724.7	702.0	674.5	646.8	619.2	591.7	572.9
47.5°	740.2	721.6	702.9	684.2	665.6	641.9	613.5	585.0	556.4	528.0	509.4
50°	700.5	681.8	663.2	644.4	625.8	602.0	573.1	544.1	515.2	486.3	468.1
52.5°	661.6	642.1	622.7	603.2	583.6	559.7	531.5	503.1	474.8	446.6	429.0
55°	604.7	584.2	563.7	543.1	522.6	498.1	469.8	441.3	413.0	384.6	368.8
57.5°	546.2	525.1	504.1	483.0	462.1	437.9	410.5	383.3	356.0	328.7	314.2
60°	506.4	485.4	464.4	443.4	422.3	398.2	371.1	344.0	317.0	289.9	276.5
62.5°	467.6	446.6	425.5	404.5	383.4	360.1	334.2	308.4	282.6	256.7	244.0
65°	408.2	386.9	365.6	344.3	323.1	300.5	276.9	253.2	229.5	205.9	197.0
67.5°	351.0	329.8	308.7	287.5	266.4	245.1	223.9	202.6	181.3	160.0	155.9
70°	311.2	290.7	270.2	249.7	229.2	209.8	191.7	173.5	155.4	137.2	134.6
72.5°	273.3	253.7	234.0	214.4	194.7	177.5	163.0	148.4	133.8	119.3	117.1
75°	217.8	199.3	180.9	162.5	144.1	130.5	121.5	112.5	103.6	94.7	92.8
77.5°	163.1	146.9	130.7	114.6	98.4	88.3	83.9	79.6	75.3	71.0	69.9
80°	128.9	115.6	102.2	88.7	75.3	67.3	64.6	62.1	59.4	56.8	55.7
82.5°	97.7	87.3	76.8	66.3	55.9	49.8	48.0	46.2	44.4	42.6	42.0
85°	50.9	45.4	39.9	34.3	28.8	25.7	24.9	24.1	23.3	22.5	22.5
87.5°	15.2	13.7	12.2	10.7	9.3	8.6	8.6	8.8	9.0	9.1	9.0
90°	0.4	1.3	2.2	3.2	4.1	4.9	5.6	6.2	7.0	7.6	8.0
92.5°	7.7	7.6	7.5	7.4	7.4	7.5	7.8	8.2	8.5	8.8	9.1
95°	24.8	21.9	19.2	16.4	13.6	12.5	13.1	13.6	14.3	14.9	15.2
97.5°	49.1	41.3	33.4	25.5	17.7	14.4	15.8	17.1	18.5	19.9	20.2
100°	67.5	55.8	44.2	32.6	21.0	16.0	17.4	18.8	20.2	21.8	22.4
102.5°	87.6	85.2	82.7	80.3	77.8	70.5	58.5	46.5	34.4	22.3	23.2
105°	115.8	118.4	120.9	123.5	126.0	115.7	92.6	69.5	46.4	23.3	24.2
107.5°	148.1	150.2	152.2	154.3	156.3	143.5	115.7	88.0	60.3	32.5	31.6
110°	168.8	170.6	172.4	174.2	175.9	164.6	140.1	115.7	91.1	66.7	58.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	188.3	189.9	191.5	193.1	194.7	192.4	186.4	180.3	174.2	168.3	137.3
115°	219.2	220.6	222.0	223.5	224.9	226.7	228.8	231.0	233.0	235.1	195.9
117.5°	246.6	248.3	249.9	251.5	253.1	254.7	256.1	257.5	259.0	260.5	251.0
120°	266.8	268.0	269.3	270.6	271.9	273.3	274.8	276.3	277.9	279.4	280.4
122.5°	283.8	285.2	286.5	287.8	289.2	290.7	292.4	294.0	295.7	297.4	298.0
125°	309.9	310.9	312.1	313.2	314.2	315.6	317.3	318.9	320.5	322.1	322.6
127.5°	333.4	334.7	335.8	337.1	338.3	339.5	340.7	341.9	343.1	344.3	345.2
130°	348.4	349.7	351.1	352.4	353.7	354.9	355.9	356.8	357.8	358.6	359.5
132.5°	363.6	364.7	365.9	367.0	368.2	369.3	370.1	371.1	372.0	373.0	373.8
135°	383.4	384.8	386.1	387.4	388.9	389.9	390.7	391.5	392.2	393.0	393.8
137.5°	403.5	404.4	405.4	406.4	407.2	408.1	409.0	409.9	410.7	411.6	412.4
140°	416.6	417.2	417.9	418.6	419.3	420.1	421.1	422.0	422.8	423.8	424.5
142.5°	427.6	428.2	428.7	429.4	430.0	430.9	431.9	432.9	434.0	435.1	435.8
145°	444.8	444.7	444.6	444.5	444.4	445.1	446.6	448.0	449.4	450.8	451.5
147.5°	459.8	459.5	459.1	458.9	458.5	459.1	460.5	461.9	463.3	464.8	465.2
150°	469.6	469.0	468.3	467.8	467.2	467.5	469.0	470.3	471.6	473.0	473.5
152.5°	477.8	477.2	476.4	475.8	475.1	475.5	476.7	478.0	479.3	480.6	481.1
155°	489.7	489.0	488.2	487.5	486.7	486.9	487.9	488.8	489.9	490.9	491.4
157.5°	499.1	498.5	497.8	497.2	496.6	496.6	497.3	498.0	498.7	499.4	500.0
160°	504.6	504.1	503.6	503.1	502.6	502.6	503.1	503.6	504.1	504.6	505.2
162.5°	509.5	509.0	508.5	508.0	507.5	507.5	507.8	508.3	508.7	509.2	509.8
165°	516.0	515.6	515.1	514.5	514.0	513.9	514.2	514.4	514.7	514.9	515.5
167.5°	520.9	520.4	520.0	519.4	518.9	518.8	519.0	519.2	519.5	519.7	520.3
170°	523.7	523.2	522.6	522.2	521.7	521.5	521.7	521.8	522.0	522.2	522.7
172.5°	525.5	525.0	524.5	524.0	523.4	523.3	523.4	523.6	523.8	524.0	524.6
175°	527.9	527.3	526.6	526.1	525.5	525.3	525.5	525.7	525.8	525.9	526.6
177.5°	528.2	527.8	527.3	526.8	526.4	526.1	526.2	526.3	526.4	526.4	526.9
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1301.3	1303.4	1305.5	1306.4	1305.9	1305.5	1305.1	1304.7
5°	1290.9	1293.2	1295.7	1296.5	1295.7	1294.9	1294.1	1293.2
7.5°	1270.1	1270.7	1271.4	1271.0	1269.7	1268.4	1266.9	1265.6
10°	1249.1	1248.3	1247.5	1246.3	1244.7	1243.2	1241.6	1240.0
12.5°	1225.1	1223.7	1222.3	1220.3	1217.6	1215.0	1212.4	1209.8
15°	1180.4	1175.4	1170.4	1166.5	1164.0	1161.3	1158.7	1156.0
17.5°	1129.7	1123.7	1117.8	1112.6	1108.0	1103.6	1099.0	1094.5
20°	1094.4	1087.8	1081.2	1075.0	1069.3	1063.5	1057.7	1052.0
22.5°	1055.6	1047.1	1038.7	1032.2	1028.0	1023.6	1019.3	1015.0
25°	991.3	980.5	969.7	962.3	958.4	954.5	950.6	946.6
27.5°	930.0	917.4	904.8	895.5	889.2	882.9	876.6	870.4
30°	886.6	873.3	859.8	849.5	842.5	835.4	828.3	821.2
32.5°	843.1	827.8	812.5	801.5	794.9	788.2	781.5	774.8
35°	775.0	758.5	741.9	730.8	725.0	719.2	713.4	707.6
37.5°	708.7	690.5	672.3	659.8	653.2	646.5	639.9	633.3
40°	664.3	645.7	627.0	614.2	607.4	600.6	593.7	586.9
42.5°	619.6	600.2	580.9	567.9	561.3	554.7	548.0	541.4
45°	554.3	535.7	516.9	504.4	498.1	491.9	485.5	479.2
47.5°	490.8	472.3	453.7	441.6	435.9	430.1	424.4	418.7
50°	450.0	431.9	413.8	401.9	396.4	390.8	385.3	379.8
52.5°	411.5	394.0	376.5	365.2	360.1	355.0	349.9	344.8
55°	353.0	337.2	321.5	311.0	306.0	301.0	296.0	291.1
57.5°	299.8	285.3	270.9	261.5	257.3	253.1	248.9	244.7
60°	263.1	249.7	236.2	227.5	223.2	219.0	214.8	210.6
62.5°	231.2	218.5	205.6	198.0	195.5	193.0	190.4	187.9
65°	188.0	179.1	170.1	165.2	164.4	163.7	162.9	162.1
67.5°	151.8	147.7	143.6	141.1	140.3	139.4	138.6	137.8
70°	132.0	129.4	126.7	124.9	123.9	122.8	121.7	120.6
72.5°	114.9	112.6	110.4	109.1	108.3	107.7	107.1	106.5
75°	91.0	89.2	87.3	86.2	86.0	85.7	85.4	85.2
77.5°	68.9	67.9	66.8	66.1	65.6	65.2	64.8	64.4
80°	54.7	53.7	52.6	52.1	52.1	52.1	52.1	52.1
82.5°	41.4	40.7	40.0	39.8	39.8	39.8	39.8	39.8
85°	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
87.5°	8.8	8.7	8.6	8.6	8.6	8.6	8.6	8.6
90°	8.5	8.9	9.3	9.6	9.8	10.0	10.2	10.3
92.5°	9.3	9.5	9.7	9.9	10.0	10.1	10.2	10.3
95°	15.7	16.1	16.6	16.8	16.7	16.6	16.5	16.4
97.5°	20.6	21.0	21.2	21.5	21.6	21.7	21.8	21.8
100°	23.1	23.7	24.4	24.9	25.1	25.2	25.3	25.5
102.5°	24.1	25.0	25.9	26.4	26.7	26.9	27.1	27.4
105°	25.1	26.0	27.0	27.6	27.9	28.3	28.6	29.0
107.5°	30.7	29.7	28.7	28.4	28.8	29.2	29.4	29.8
110°	49.8	41.3	32.8	28.7	29.1	29.4	29.8	30.1



TEST NUMBER: P331827-940

CATALOG NUMBER: S122RDIW-S865D435U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	106.5	75.5	44.7	29.3	29.6	29.9	30.1	30.4
115°	156.8	117.5	78.3	55.6	49.6	43.4	37.4	31.2
117.5°	241.5	232.0	222.5	207.8	187.7	167.6	147.7	127.6
120°	281.4	282.4	283.5	278.2	266.8	255.4	243.9	232.5
122.5°	298.5	299.2	299.8	299.0	296.8	294.5	292.3	290.1
125°	323.2	323.9	324.4	324.9	325.1	325.4	325.7	325.8
127.5°	346.1	346.9	347.8	348.2	348.3	348.3	348.4	348.4
130°	360.5	361.4	362.4	362.8	362.7	362.7	362.6	362.5
132.5°	374.6	375.3	376.1	376.5	376.4	376.3	376.3	376.2
135°	394.7	395.5	396.4	396.6	396.5	396.4	396.2	396.0
137.5°	413.3	414.1	414.9	415.2	414.9	414.6	414.4	414.0
140°	425.3	426.1	426.9	427.0	426.6	426.1	425.8	425.3
142.5°	436.5	437.2	437.9	438.0	437.6	437.2	436.8	436.3
145°	452.1	452.6	453.3	453.3	452.9	452.5	452.1	451.7
147.5°	465.7	466.1	466.5	466.5	466.2	465.8	465.5	465.1
150°	474.0	474.5	475.0	475.1	474.7	474.2	473.8	473.4
152.5°	481.6	482.1	482.7	482.6	482.1	481.5	480.9	480.4
155°	492.0	492.4	492.9	492.8	492.1	491.5	490.8	490.2
157.5°	500.6	501.1	501.8	501.7	501.1	500.3	499.7	499.1
160°	505.6	506.1	506.7	506.6	506.0	505.4	504.8	504.3
162.5°	510.3	511.0	511.5	511.4	510.7	510.0	509.3	508.5
165°	516.1	516.7	517.3	517.3	516.7	516.1	515.5	514.9
167.5°	520.9	521.5	522.1	522.0	521.2	520.5	519.7	519.0
170°	523.3	524.0	524.5	524.4	523.7	522.9	522.2	521.4
172.5°	525.1	525.8	526.4	526.3	525.5	524.8	524.0	523.3
175°	527.2	527.7	528.3	528.2	527.4	526.6	525.7	524.9
177.5°	527.4	527.8	528.3	528.2	527.6	527.0	526.4	525.8
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7

(END OF REPORT)