

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: P331560-940

Luminaire Tested: **S122DIW-S865D435U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331560-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D435U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4471.3 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

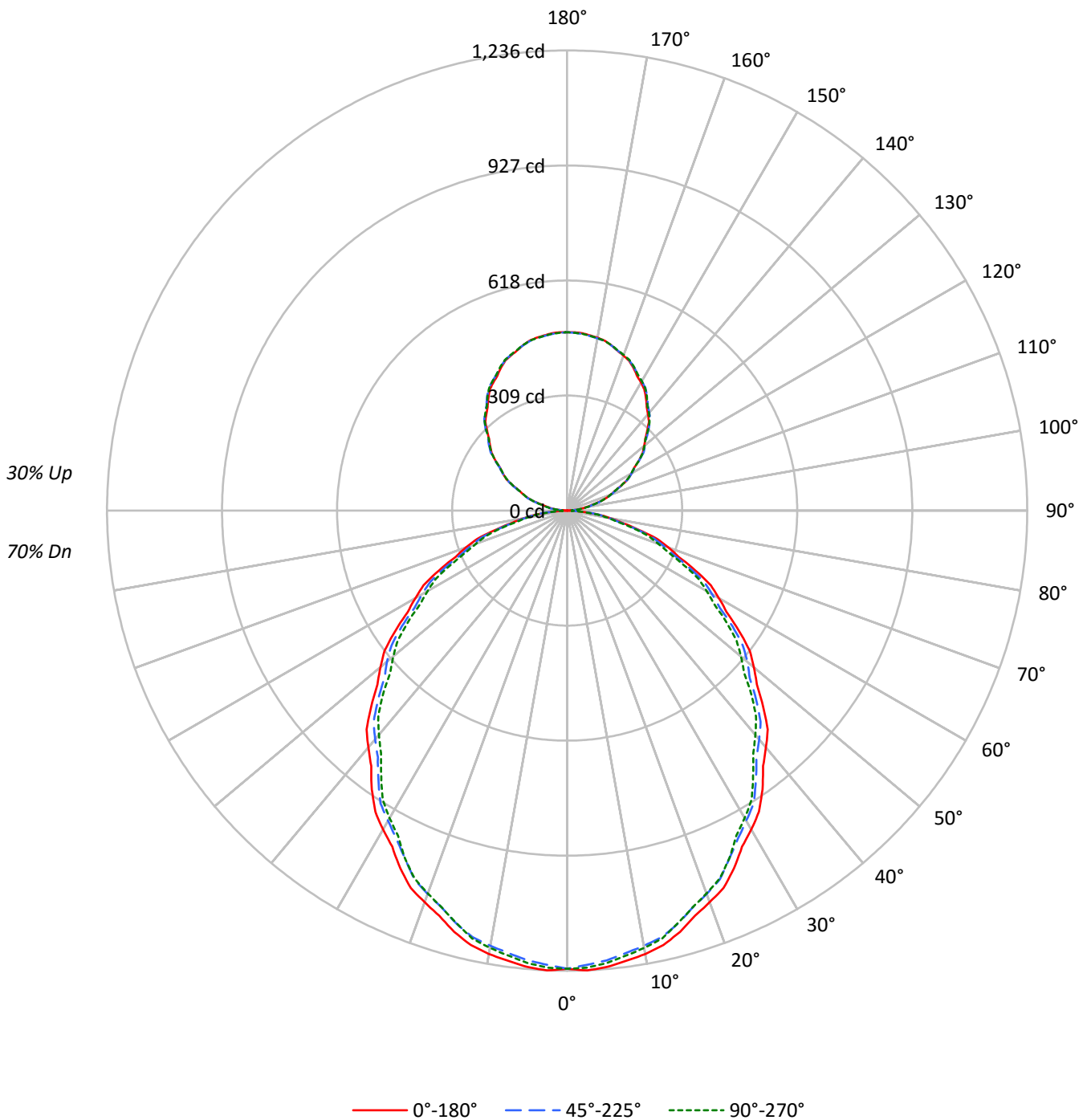
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	94	94	94	84	84	84	75	75	75	70
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	64	63	59
2	93	85	79	74	88	81	75	71	73	68	64	65	62	59	58	55	53	49
3	85	75	68	61	80	71	65	59	64	59	54	58	53	50	51	48	45	42
4	78	67	58	52	73	63	56	50	57	51	46	51	47	43	46	42	39	36
5	72	60	51	45	67	57	49	43	51	45	40	46	41	37	41	37	34	31
6	66	54	45	39	62	51	43	38	46	40	35	42	37	33	38	33	30	27
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27	24
8	57	44	36	31	54	42	35	30	38	32	28	35	30	26	32	27	24	22
9	53	40	33	27	50	39	31	27	35	29	25	32	27	23	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19869	19869	19869
5°	19945	19656	19772
10°	19825	19457	19556
15°	19580	19206	19184
20°	19234	18826	18806
25°	18887	18360	18360
30°	18442	17935	17780
35°	18027	17422	17164
40°	17506	16910	16583
45°	16993	16401	15995
50°	16435	15872	15307
55°	15854	15254	14688
60°	15206	14518	13986
65°	14514	13788	13154
70°	13629	12902	12288
75°	12402	11884	11584
80°	11000	10674	10126
85°	8985	8559	7669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.7	2.6
10°-20°	325.6	7.3
20°-30°	478.6	10.7
30°-40°	555.9	12.4
40°-50°	555.3	12.4
50°-60°	484.3	10.8
60°-70°	358.1	8.0
70°-80°	202.8	4.5
80°-90°	56.4	1.3
90°-100°	30.3	0.7
100°-110°	94.2	2.1
110°-120°	161.0	3.6
120°-130°	211.8	4.7
130°-140°	237.7	5.3
140°-150°	233.1	5.2
150°-160°	195.5	4.4
160°-170°	129.7	2.9
170°-180°	45.3	1.0
0°-30°	919.9	20.6
0°-40°	1475.8	33.0
0°-60°	2515.4	56.3
0°-90°	3132.7	70.1
90°-120°	285.6	6.4
90°-150°	968.1	21.7
90°-180°	1339.0	29.9
0°-180°	4471.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1231	1231	1231	1231	1231	
5°	1231	1225	1213	1222	1220	117
15°	1171	1164	1149	1153	1148	330
25°	1060	1050	1031	1033	1031	488
35°	915	902	884	877	871	571
45°	744	735	718	706	700	574
55°	563	556	542	528	522	503
65°	380	372	361	350	344	376
75°	199	196	190	184	186	212
85°	48	47	46	43	41	56
90°	0	5	14	13	14	3
95°	21	25	26	26	25	24
105°	87	88	89	90	90	92
115°	162	164	163	163	162	160
125°	235	238	238	236	236	210
135°	304	308	309	309	308	235
145°	369	372	374	375	373	231
155°	422	423	425	426	425	194
165°	459	459	459	462	460	129
175°	478	477	476	478	476	45
180°	479	479	479	479	479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1236.3	1235.2	1234.1	1233.1	1232.1	1230.4	1228.1	1225.7	1223.4	1221.1	1223.2
5°	1230.6	1229.5	1228.5	1227.4	1226.4	1224.4	1221.6	1218.6	1215.8	1212.8	1215.0
7.5°	1219.7	1218.1	1216.5	1214.8	1213.2	1210.9	1207.9	1205.0	1202.0	1199.1	1201.2
10°	1209.2	1207.5	1205.6	1203.7	1201.9	1199.4	1196.2	1193.1	1190.0	1186.8	1188.9
12.5°	1195.1	1193.5	1191.9	1190.2	1188.6	1186.2	1183.0	1179.8	1176.7	1173.6	1175.0
15°	1171.4	1169.8	1168.2	1166.7	1165.1	1162.6	1159.2	1155.7	1152.4	1149.0	1150.0
17.5°	1141.1	1139.5	1138.0	1136.4	1134.8	1132.3	1128.8	1125.3	1121.9	1118.4	1119.6
20°	1119.4	1117.8	1116.2	1114.6	1113.0	1110.4	1106.7	1103.0	1099.4	1095.7	1096.4
22.5°	1097.6	1095.4	1093.1	1090.9	1088.8	1085.9	1082.4	1079.0	1075.5	1072.0	1072.2
25°	1060.2	1058.1	1056.0	1053.9	1051.8	1048.5	1044.0	1039.6	1035.1	1030.6	1031.2
27.5°	1017.6	1015.7	1013.8	1011.9	1010.0	1007.3	1003.8	1000.2	996.8	993.2	992.5
30°	989.2	987.1	985.0	982.9	980.8	977.8	973.8	969.9	965.9	962.0	961.2
32.5°	958.9	957.3	955.6	953.9	952.2	949.2	945.1	940.9	936.8	932.6	931.2
35°	914.6	912.0	909.4	906.8	904.1	900.7	896.5	892.3	888.1	883.9	882.3
37.5°	864.7	862.4	860.1	857.7	855.5	852.2	848.0	843.8	839.5	835.4	833.4
40°	830.6	828.6	826.4	824.3	822.2	819.0	814.8	810.7	806.5	802.3	799.9
42.5°	797.5	795.4	793.3	791.2	789.1	786.0	781.8	777.6	773.3	769.1	766.5
45°	744.2	742.4	740.6	738.8	736.9	734.0	730.0	726.1	722.2	718.3	715.3
47.5°	691.3	689.6	687.8	686.1	684.3	681.4	677.3	673.2	669.1	664.9	661.9
50°	654.3	653.0	651.8	650.4	649.1	646.6	642.9	639.2	635.5	631.9	628.2
52.5°	618.4	616.6	614.9	613.1	611.4	608.9	605.4	601.9	598.4	594.9	591.9
55°	563.2	561.7	560.1	558.5	556.9	554.6	551.4	548.2	545.1	541.9	538.8
57.5°	507.8	506.6	505.3	504.1	502.8	500.4	497.0	493.5	490.0	486.5	483.5
60°	470.9	469.8	468.9	467.8	466.7	464.4	460.7	457.0	453.3	449.6	446.7
62.5°	435.0	433.3	431.6	429.9	428.2	426.0	423.1	420.3	417.4	414.6	412.0
65°	379.9	378.3	376.7	375.1	373.5	371.4	368.8	366.1	363.6	360.9	358.6
67.5°	323.8	322.4	321.2	319.9	318.7	316.9	314.5	312.1	309.8	307.4	305.6
70°	288.7	287.7	286.6	285.5	284.5	282.8	280.4	278.0	275.7	273.3	271.5
72.5°	252.7	251.7	250.7	249.6	248.5	247.3	245.8	244.2	242.6	241.1	239.3
75°	198.8	198.2	197.7	197.2	196.7	195.7	194.5	193.1	191.8	190.5	189.0
77.5°	150.5	149.6	148.7	147.8	147.0	146.2	145.7	145.2	144.6	144.1	143.3
80°	118.3	118.1	117.8	117.5	117.3	116.9	116.4	115.8	115.3	114.8	114.0
82.5°	88.0	88.0	87.9	87.8	87.8	87.7	87.3	87.0	86.7	86.4	85.3
85°	48.5	48.2	48.0	47.7	47.4	47.2	46.9	46.6	46.4	46.2	45.4
87.5°	17.1	16.9	16.7	16.5	16.3	16.1	16.1	16.1	16.1	16.1	15.4
90°	0.4	1.5	2.6	3.7	4.7	6.2	8.2	10.2	12.1	14.2	14.0
92.5°	7.2	8.0	8.7	9.5	10.3	11.0	11.4	11.9	12.4	12.8	12.8
95°	21.0	21.9	22.8	23.7	24.6	25.1	25.3	25.5	25.7	25.9	25.9
97.5°	38.3	39.1	39.9	40.8	41.6	42.1	42.4	42.8	43.2	43.4	43.4
100°	51.3	52.0	52.7	53.5	54.2	54.7	54.9	55.2	55.5	55.7	55.7
102.5°	64.9	65.5	66.0	66.6	67.1	67.7	67.9	68.3	68.7	69.0	69.1
105°	86.9	87.1	87.4	87.7	87.9	88.2	88.4	88.5	88.7	88.9	89.1
107.5°	109.0	109.4	109.8	110.2	110.6	110.8	110.8	110.8	110.8	110.8	110.8
110°	123.2	123.8	124.3	124.8	125.4	125.6	125.6	125.6	125.6	125.6	125.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.8	139.3	139.8	140.4	140.9	141.2	141.1	141.0	140.9	140.8	140.6
115°	161.6	162.1	162.6	163.2	163.7	163.9	163.7	163.5	163.4	163.2	163.1
117.5°	184.4	185.1	185.8	186.5	187.3	187.3	186.9	186.4	185.8	185.4	185.1
120°	199.6	200.3	201.0	201.7	202.4	202.4	201.7	201.0	200.3	199.6	199.6
122.5°	213.5	214.4	215.2	216.1	217.0	217.1	216.6	216.1	215.6	215.1	214.9
125°	235.1	235.9	236.7	237.6	238.4	238.6	238.4	238.1	237.8	237.6	237.3
127.5°	256.2	257.3	258.2	259.3	260.3	260.6	260.4	260.0	259.7	259.4	259.0
130°	269.5	270.6	271.8	273.0	274.1	274.6	274.5	274.3	274.1	273.9	273.8
132.5°	284.4	285.3	286.2	287.2	288.1	288.6	288.6	288.7	288.7	288.7	288.4
135°	304.3	305.2	306.2	307.2	308.2	308.7	308.9	309.1	309.2	309.4	309.3
137.5°	325.1	325.9	326.7	327.5	328.3	328.9	329.1	329.4	329.6	329.8	329.8
140°	337.8	338.6	339.4	340.2	341.0	341.6	342.1	342.5	343.0	343.4	343.4
142.5°	350.7	351.5	352.3	353.1	353.9	354.5	354.7	355.1	355.3	355.7	355.8
145°	369.3	369.9	370.5	371.1	371.8	372.4	372.9	373.4	374.0	374.5	374.6
147.5°	385.8	386.6	387.4	388.1	388.9	389.4	389.8	390.1	390.5	390.8	391.0
150°	397.2	397.7	398.2	398.8	399.3	399.8	400.1	400.5	400.8	401.2	401.4
152.5°	407.2	407.7	408.2	408.8	409.3	409.8	410.2	410.6	411.1	411.5	411.9
155°	422.1	422.4	422.7	423.0	423.3	423.6	423.8	424.1	424.4	424.6	425.1
157.5°	435.1	435.2	435.4	435.6	435.8	435.9	436.0	436.2	436.4	436.6	437.2
160°	442.8	443.0	443.2	443.4	443.5	443.6	443.7	443.8	443.9	444.0	444.5
162.5°	449.9	450.0	450.0	450.0	450.0	450.1	450.2	450.3	450.4	450.5	451.0
165°	459.3	459.2	459.1	459.1	459.0	459.0	459.0	459.0	459.0	459.0	459.6
167.5°	467.3	467.0	466.7	466.5	466.2	466.0	466.0	466.0	466.0	466.0	466.6
170°	471.4	471.2	470.9	470.6	470.4	470.2	470.1	470.0	469.9	469.8	470.5
172.5°	474.4	474.1	473.9	473.6	473.3	473.1	473.1	473.0	472.9	472.8	473.4
175°	478.0	477.7	477.4	477.2	476.9	476.6	476.4	476.3	476.1	475.9	476.5
177.5°	479.4	479.2	478.9	478.8	478.5	478.3	478.2	478.0	477.9	477.8	478.2
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1225.3	1227.4	1229.5	1230.4	1229.9	1229.5	1229.1	1228.7
5°	1217.0	1219.1	1221.3	1222.0	1221.6	1221.0	1220.5	1219.9
7.5°	1203.3	1205.4	1207.6	1208.3	1207.7	1207.1	1206.6	1205.9
10°	1191.0	1193.1	1195.2	1195.9	1195.1	1194.3	1193.5	1192.8
12.5°	1176.5	1177.9	1179.5	1179.9	1179.3	1178.8	1178.1	1177.6
15°	1151.0	1152.1	1153.2	1153.0	1151.7	1150.4	1149.1	1147.7
17.5°	1120.8	1122.0	1123.3	1123.2	1122.0	1120.7	1119.5	1118.2
20°	1097.3	1098.1	1098.9	1098.7	1097.7	1096.6	1095.6	1094.5
22.5°	1072.4	1072.5	1072.6	1072.5	1071.7	1071.1	1070.5	1069.9
25°	1031.7	1032.2	1032.7	1032.7	1032.2	1031.7	1031.2	1030.6
27.5°	991.7	990.9	990.1	989.1	987.7	986.5	985.3	984.0
30°	960.4	959.7	958.9	957.9	956.9	955.8	954.8	953.7
32.5°	929.8	928.4	926.9	925.7	924.7	923.6	922.6	921.5
35°	880.7	879.1	877.6	876.1	874.9	873.5	872.2	870.8
37.5°	831.5	829.6	827.6	826.0	824.7	823.5	822.2	820.9
40°	797.5	795.1	792.8	791.0	790.1	789.0	787.9	786.8
42.5°	763.9	761.3	758.8	756.8	755.3	753.9	752.3	750.9
45°	712.5	709.5	706.7	704.7	703.6	702.6	701.5	700.5
47.5°	658.9	655.9	652.8	650.5	649.0	647.5	646.0	644.4
50°	624.5	620.8	617.2	614.7	613.3	612.0	610.7	609.4
52.5°	588.8	585.8	582.7	580.3	578.6	576.8	575.2	573.4
55°	535.7	532.4	529.3	527.1	525.8	524.4	523.2	521.8
57.5°	480.4	477.2	474.1	472.1	471.1	470.1	469.1	468.1
60°	443.9	441.0	438.1	436.2	435.4	434.6	433.8	433.1
62.5°	409.2	406.5	403.9	402.1	401.0	400.0	399.0	398.1
65°	356.1	353.8	351.4	349.6	348.3	347.0	345.6	344.3
67.5°	303.7	301.8	300.1	298.6	297.6	296.5	295.4	294.4
70°	269.7	267.8	266.0	264.5	263.5	262.4	261.4	260.3
72.5°	237.5	235.6	233.8	232.5	231.6	230.8	229.9	229.1
75°	187.3	185.7	184.2	183.7	184.2	184.8	185.2	185.7
77.5°	142.6	141.8	141.0	140.2	139.5	138.8	138.0	137.2
80°	113.2	112.4	111.6	110.9	110.4	109.9	109.4	108.9
82.5°	84.4	83.4	82.4	81.9	81.7	81.6	81.5	81.4
85°	44.6	43.8	43.0	42.4	42.2	41.9	41.6	41.4
87.5°	14.7	14.1	13.4	13.0	12.8	12.6	12.4	12.2
90°	13.8	13.6	13.5	13.4	13.5	13.6	13.6	13.7
92.5°	12.9	12.9	13.0	13.0	13.0	13.0	13.1	13.1
95°	25.9	25.9	25.9	25.8	25.6	25.4	25.2	25.1
97.5°	43.4	43.4	43.4	43.4	43.4	43.4	43.4	43.4
100°	55.7	55.7	55.7	55.7	55.6	55.6	55.5	55.4
102.5°	69.1	69.2	69.3	69.3	69.2	69.1	69.0	68.9
105°	89.3	89.4	89.6	89.7	89.7	89.7	89.7	89.7
107.5°	110.9	111.0	111.1	110.9	110.5	110.0	109.7	109.2
110°	125.6	125.6	125.6	125.5	125.2	124.9	124.7	124.4



TEST NUMBER: P331560-940

CATALOG NUMBER: S122DIW-S865D435U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	140.4	140.2	140.0	139.7	139.6	139.4	139.2	139.0
115°	163.0	162.9	162.8	162.6	162.4	162.1	161.8	161.6
117.5°	184.9	184.7	184.5	184.2	184.0	183.7	183.4	183.2
120°	199.6	199.6	199.6	199.5	199.2	198.9	198.7	198.4
122.5°	214.6	214.5	214.2	214.0	213.8	213.7	213.4	213.2
125°	237.0	236.7	236.5	236.3	236.2	236.1	236.0	235.9
127.5°	258.7	258.4	258.1	257.8	257.4	257.2	256.9	256.6
130°	273.6	273.4	273.2	273.0	272.6	272.2	271.9	271.5
132.5°	288.0	287.6	287.2	286.9	286.6	286.2	286.0	285.7
135°	309.2	309.2	309.1	308.9	308.6	308.4	308.1	307.8
137.5°	329.7	329.6	329.6	329.3	329.0	328.6	328.2	327.9
140°	343.4	343.4	343.4	343.2	342.9	342.5	342.1	341.8
142.5°	355.8	355.9	356.0	355.8	355.4	355.1	354.7	354.4
145°	374.7	374.8	374.9	374.7	374.3	374.0	373.6	373.3
147.5°	391.2	391.5	391.6	391.6	391.2	390.8	390.5	390.2
150°	401.7	402.0	402.3	402.3	402.0	401.7	401.4	401.2
152.5°	412.1	412.5	412.9	412.9	412.5	412.1	411.9	411.5
155°	425.5	426.0	426.4	426.5	426.2	426.0	425.7	425.4
157.5°	437.7	438.4	439.0	439.1	438.6	438.2	437.8	437.4
160°	445.1	445.6	446.1	446.2	445.9	445.5	445.1	444.8
162.5°	451.7	452.3	452.9	453.0	452.5	452.1	451.7	451.3
165°	460.2	460.8	461.5	461.5	461.1	460.7	460.2	459.8
167.5°	467.3	467.9	468.5	468.6	468.1	467.6	467.2	466.7
170°	471.1	471.7	472.3	472.4	471.9	471.4	470.8	470.3
172.5°	474.0	474.7	475.3	475.3	474.7	474.2	473.7	473.1
175°	477.2	477.8	478.4	478.5	478.0	477.4	476.9	476.4
177.5°	478.7	479.0	479.5	479.5	479.0	478.7	478.2	477.8
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8

(END OF REPORT)