

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: P331831-940

Luminaire Tested: **S122RDIW-S865D710U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331831-940
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-S865D710U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5219.5 lumens
Efficiency: N/A
Efficacy: 97.4 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: General Diffuse

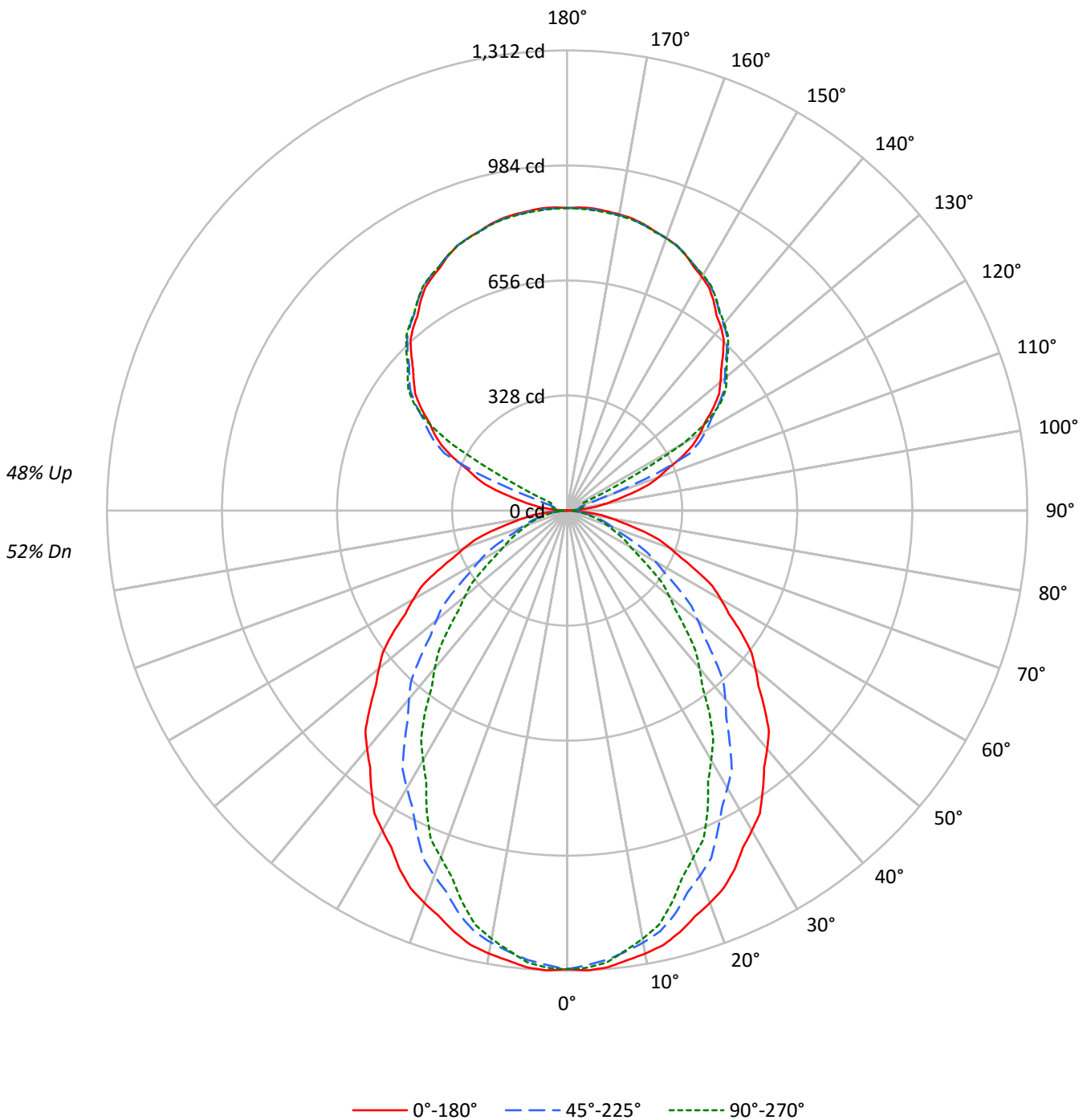
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	99	99	99	99	84	84	84		70	70	70		58	58	58	52
1	99	94	91	87	91	88	84	81	75	72	70		63	61	60		52	51	50	44
2	90	83	77	72	83	77	72	68	66	62	59		56	53	50		46	44	42	38
3	83	73	66	61	76	68	62	57	59	54	50		50	46	43		41	39	37	33
4	76	65	58	52	70	61	54	49	52	47	43		45	41	38		37	34	32	29
5	70	58	51	45	64	55	48	42	47	42	38		40	36	33		34	31	28	25
6	64	53	45	39	60	49	42	37	43	37	33		37	32	29		31	28	25	22
7	60	48	40	34	55	45	38	33	39	33	29		33	29	26		28	25	23	20
8	56	43	36	31	51	41	34	29	36	30	26		31	26	23		26	23	20	18
9	52	40	32	27	48	37	31	26	33	27	24		28	24	21		24	21	19	16
10	48	37	29	25	45	34	28	24	30	25	21		26	22	19		22	19	17	15

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	2.3
10°-20°	336.0	6.4
20°-30°	471.9	9.0
30°-40°	514.6	9.9
40°-50°	473.1	9.1
50°-60°	371.6	7.1
60°-70°	242.3	4.6
70°-80°	124.9	2.4
80°-90°	34.5	0.7
90°-100°	28.8	0.6
100°-110°	105.5	2.0
110°-120°	282.1	5.4
120°-130°	465.6	8.9
130°-140°	495.2	9.5
140°-150°	460.3	8.8
150°-160°	370.1	7.1
160°-170°	238.5	4.6
170°-180°	82.1	1.6
0°-30°	930.3	17.8
0°-40°	1444.9	27.7
0°-60°	2289.6	43.9
0°-90°	2691.3	51.6
90°-120°	416.4	8.0
90°-150°	1837.6	35.2
90°-180°	2528.0	48.4
0°-180°	5219.5	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°	1	7	12	16	17	4
95°	41	21	24	27	27	50
105°	190	198	38	45	47	203
115°	359	370	385	110	51	353
125°	508	516	527	532	534	452
135°	628	638	644	649	649	485
145°	728	728	738	742	740	455
155°	802	797	804	807	803	369
165°	845	842	843	847	843	239
175°	865	860	862	865	860	82
180°	863	863	863	863	863	



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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	13.9	12.5	11.1	9.7	9.2	9.4	9.6	9.8	10.1	10.0
90°	0.6	2.1	3.7	5.2	6.7	8.0	9.2	10.3	11.4	12.5	13.2
92.5°	12.6	12.5	12.3	12.2	12.0	12.3	12.8	13.4	13.9	14.4	14.8
95°	40.6	36.0	31.4	26.8	22.3	20.4	21.4	22.4	23.4	24.3	25.1
97.5°	80.5	67.6	54.8	41.8	28.9	23.6	25.9	28.1	30.3	32.5	33.2
100°	110.5	91.5	72.5	53.5	34.5	26.1	28.5	30.9	33.3	35.6	36.6
102.5°	143.5	139.5	135.4	131.3	127.3	115.5	95.8	76.1	56.3	36.6	38.0
105°	189.8	193.9	198.1	202.2	206.4	189.6	151.7	113.8	76.0	38.1	39.6
107.5°	242.5	245.9	249.3	252.6	256.0	235.0	189.6	144.2	98.7	53.3	51.7
110°	276.5	279.5	282.4	285.3	288.2	269.6	229.5	189.4	149.4	109.2	95.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.5	311.1	313.7	316.2	318.8	315.1	305.2	295.3	285.4	275.5	225.0
115°	358.9	361.3	363.6	366.0	368.4	371.3	374.8	378.3	381.7	385.1	320.9
117.5°	404.0	406.6	409.3	411.9	414.6	417.1	419.5	421.9	424.2	426.6	411.1
120°	436.9	439.1	441.1	443.2	445.3	447.5	450.0	452.5	455.0	457.5	459.2
122.5°	464.9	467.2	469.3	471.5	473.7	476.2	478.8	481.6	484.3	487.1	488.0
125°	507.5	509.3	511.1	512.9	514.7	516.9	519.6	522.2	524.9	527.4	528.4
127.5°	546.1	548.0	550.1	552.1	554.1	556.1	558.0	560.0	562.0	563.9	565.3
130°	570.5	572.7	575.0	577.2	579.4	581.3	582.8	584.3	585.9	587.5	589.0
132.5°	595.6	597.4	599.3	601.2	603.1	604.8	606.3	607.8	609.4	610.9	612.2
135°	628.0	630.2	632.4	634.6	636.9	638.6	639.9	641.1	642.4	643.6	645.0
137.5°	660.8	662.4	664.0	665.5	667.0	668.5	669.9	671.4	672.8	674.2	675.6
140°	682.3	683.4	684.5	685.6	686.7	688.0	689.6	691.1	692.6	694.2	695.4
142.5°	700.3	701.2	702.3	703.3	704.3	705.6	707.4	709.2	710.9	712.7	713.8
145°	728.5	728.3	728.3	728.1	727.9	729.1	731.4	733.8	736.1	738.5	739.5
147.5°	753.0	752.6	752.1	751.5	751.0	751.9	754.2	756.5	758.8	761.2	762.0
150°	769.1	768.1	767.1	766.2	765.2	765.8	768.0	770.3	772.5	774.7	775.5
152.5°	782.6	781.5	780.4	779.3	778.2	778.7	780.9	782.9	785.1	787.2	788.0
155°	802.2	800.9	799.7	798.4	797.2	797.4	799.1	800.7	802.4	804.1	804.9
157.5°	817.5	816.5	815.4	814.3	813.3	813.3	814.5	815.6	816.8	818.0	818.9
160°	826.5	825.6	824.8	824.0	823.1	823.1	824.0	824.8	825.6	826.5	827.3
162.5°	834.5	833.7	832.9	832.0	831.2	831.1	831.8	832.6	833.3	834.0	834.9
165°	845.3	844.4	843.6	842.8	841.9	841.7	842.1	842.5	842.9	843.4	844.4
167.5°	853.2	852.4	851.6	850.7	849.9	849.7	850.1	850.4	850.9	851.2	852.2
170°	857.7	856.8	856.0	855.2	854.3	854.1	854.3	854.7	855.0	855.2	856.2
172.5°	860.7	859.9	859.1	858.2	857.4	857.1	857.4	857.6	857.9	858.2	859.2
175°	864.6	863.6	862.6	861.7	860.7	860.3	860.6	860.9	861.2	861.5	862.5
177.5°	865.2	864.4	863.6	862.9	862.1	861.7	861.8	862.0	862.1	862.2	863.0
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7



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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°	9.9	9.9	9.8	9.8	9.8	9.9	9.9	10.0
90°	13.9	14.5	15.2	15.8	16.1	16.3	16.6	16.9
92.5°	15.2	15.6	16.0	16.2	16.3	16.5	16.7	16.9
95°	25.8	26.4	27.1	27.4	27.3	27.1	27.0	26.8
97.5°	33.7	34.2	34.8	35.1	35.3	35.5	35.7	35.8
100°	37.8	38.9	40.0	40.8	41.0	41.3	41.6	41.8
102.5°	39.5	40.9	42.4	43.2	43.7	44.1	44.4	44.9
105°	41.1	42.6	44.1	45.2	45.7	46.4	46.9	47.4
107.5°	50.2	48.7	47.1	46.6	47.2	47.7	48.2	48.8
110°	81.5	67.6	53.8	47.1	47.6	48.2	48.8	49.3



TEST NUMBER: P331831-940

CATALOG NUMBER: S122RDIW-S865D710U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	174.3	123.8	73.1	48.1	48.5	49.0	49.4	49.8
115°	256.7	192.4	128.2	91.1	81.1	71.2	61.2	51.2
117.5°	395.6	380.0	364.4	340.3	307.5	274.6	241.8	209.0
120°	460.9	462.5	464.2	455.7	436.9	418.2	399.5	380.8
122.5°	489.0	490.0	491.1	489.7	486.1	482.4	478.8	475.2
125°	529.4	530.4	531.4	532.1	532.4	532.9	533.3	533.7
127.5°	566.8	568.2	569.6	570.3	570.4	570.5	570.6	570.7
130°	590.5	592.0	593.5	594.2	594.1	594.0	593.8	593.7
132.5°	613.5	614.8	616.1	616.7	616.5	616.4	616.3	616.2
135°	646.4	647.7	649.2	649.7	649.4	649.2	648.9	648.6
137.5°	676.9	678.2	679.7	680.1	679.6	679.1	678.7	678.1
140°	696.7	697.9	699.2	699.5	698.7	698.0	697.3	696.7
142.5°	714.9	716.0	717.2	717.4	716.8	716.0	715.3	714.6
145°	740.4	741.4	742.3	742.5	741.8	741.1	740.4	739.8
147.5°	762.7	763.4	764.1	764.2	763.6	763.0	762.4	761.8
150°	776.3	777.2	778.0	778.1	777.4	776.7	776.0	775.3
152.5°	788.8	789.7	790.5	790.5	789.5	788.6	787.7	786.8
155°	805.7	806.6	807.4	807.2	806.1	805.0	803.9	802.8
157.5°	819.9	820.8	821.8	821.7	820.6	819.6	818.5	817.3
160°	828.1	829.0	829.8	829.7	828.8	827.8	826.9	825.9
162.5°	835.9	836.8	837.8	837.7	836.4	835.3	834.0	832.9
165°	845.3	846.2	847.2	847.2	846.2	845.3	844.4	843.4
167.5°	853.2	854.2	855.1	855.0	853.7	852.5	851.2	850.0
170°	857.2	858.1	859.1	859.0	857.7	856.5	855.2	854.0
172.5°	860.1	861.1	862.1	861.9	860.7	859.4	858.2	856.9
175°	863.4	864.3	865.3	865.1	863.7	862.4	860.9	859.6
177.5°	863.8	864.5	865.3	865.2	864.2	863.2	862.2	861.2
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7

(END OF REPORT)