

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: P331831-830

Luminaire Tested: **S122RDIW-S865D710U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331831-830
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-S865D710U830-4F0-1E-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: 5517.1 lumens
Efficiency: N/A
Efficacy: 102.9 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

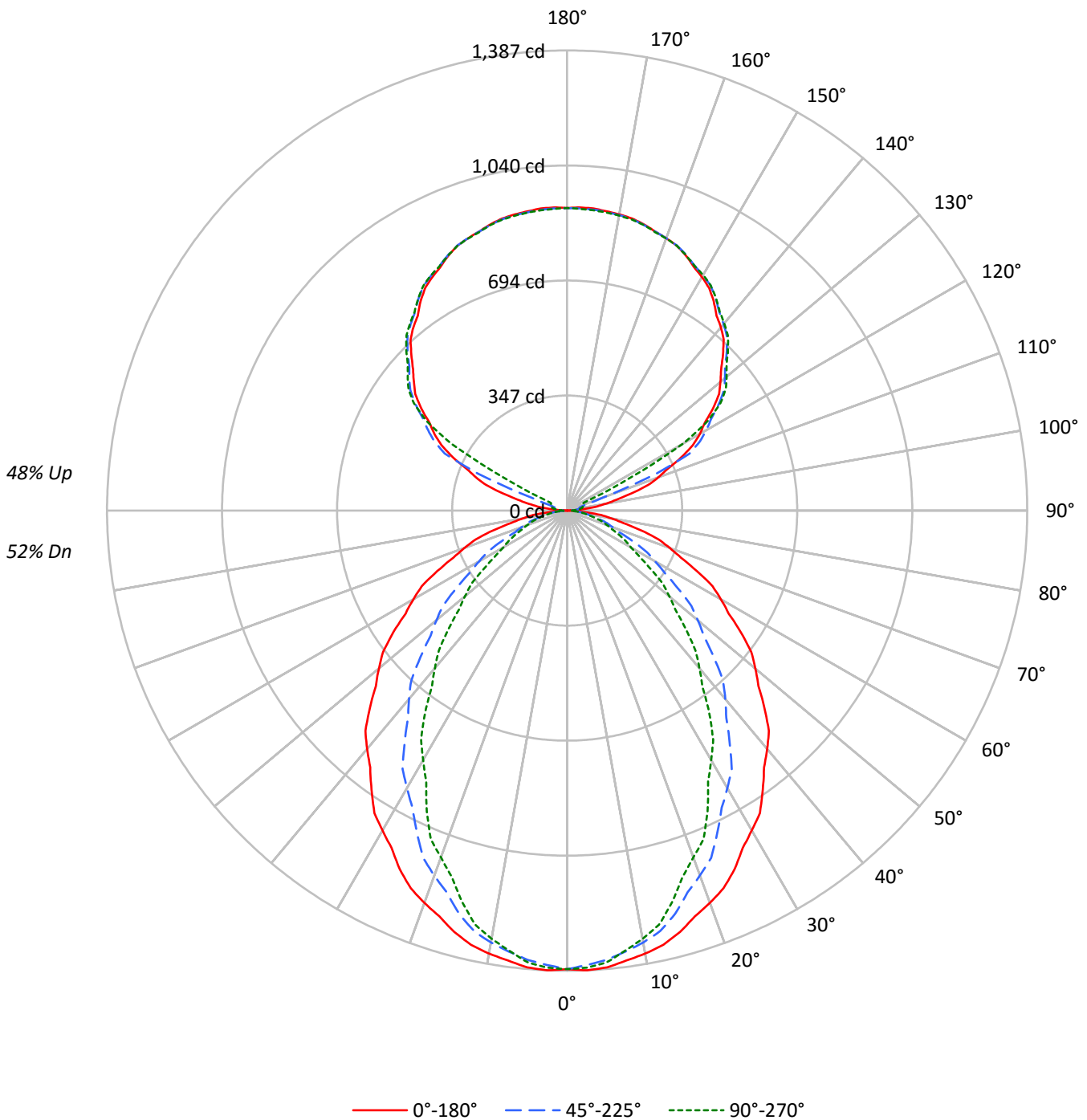
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	2.3
10°-20°	355.2	6.4
20°-30°	498.8	9.0
30°-40°	543.9	9.9
40°-50°	500.1	9.1
50°-60°	392.8	7.1
60°-70°	256.1	4.6
70°-80°	132.0	2.4
80°-90°	36.5	0.7
90°-100°	30.4	0.6
100°-110°	111.6	2.0
110°-120°	298.2	5.4
120°-130°	492.2	8.9
130°-140°	523.5	9.5
140°-150°	486.5	8.8
150°-160°	391.2	7.1
160°-170°	252.1	4.6
170°-180°	86.8	1.6
0°-30°	983.3	17.8
0°-40°	1527.2	27.7
0°-60°	2420.1	43.9
0°-90°	2844.7	51.6
90°-120°	440.1	8.0
90°-150°	1942.3	35.2
90°-180°	2672.0	48.4
0°-180°	5517.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	1	8	13	16	18	4
95°	43	23	26	29	28	52
105°	201	209	40	47	50	214
115°	379	391	407	116	54	373
125°	536	545	558	562	564	478
135°	664	674	680	686	686	512
145°	770	770	781	785	782	481
155°	848	843	850	853	849	391
165°	893	890	892	896	892	252
175°	914	910	911	915	909	87
180°	912	912	912	912	912	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.1	14.7	13.2	11.8	10.3	9.7	9.9	10.2	10.4	10.7	10.6
90°	0.7	2.3	3.9	5.5	7.1	8.5	9.7	10.8	12.1	13.2	13.9
92.5°	13.3	13.2	13.0	12.9	12.7	13.0	13.6	14.1	14.7	15.3	15.6
95°	42.9	38.1	33.2	28.4	23.6	21.6	22.6	23.7	24.7	25.7	26.5
97.5°	85.1	71.4	57.9	44.2	30.5	25.0	27.3	29.7	32.0	34.4	35.1
100°	116.8	96.7	76.6	56.6	36.5	27.6	30.2	32.6	35.2	37.6	38.7
102.5°	151.7	147.4	143.1	138.8	134.6	122.1	101.2	80.4	59.5	38.6	40.2
105°	200.6	205.0	209.4	213.8	218.2	200.4	160.3	120.3	80.3	40.2	41.8
107.5°	256.4	260.0	263.5	267.0	270.6	248.4	200.4	152.4	104.3	56.4	54.7
110°	292.3	295.4	298.5	301.5	304.6	284.9	242.6	200.2	157.9	115.5	100.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	326.1	328.9	331.6	334.2	337.0	333.1	322.6	312.2	301.7	291.2	237.8
115°	379.4	381.9	384.4	386.9	389.4	392.5	396.2	399.8	403.4	407.1	339.2
117.5°	427.1	429.8	432.6	435.4	438.2	440.8	443.4	445.9	448.4	450.9	434.5
120°	461.8	464.1	466.3	468.4	470.7	473.1	475.7	478.3	481.0	483.6	485.4
122.5°	491.4	493.8	496.1	498.4	500.7	503.3	506.1	509.1	511.9	514.8	515.9
125°	536.4	538.4	540.3	542.2	544.0	546.4	549.2	552.0	554.8	557.5	558.6
127.5°	577.2	579.3	581.5	583.5	585.7	587.8	589.8	591.9	594.0	596.1	597.6
130°	603.0	605.4	607.8	610.1	612.5	614.4	616.0	617.6	619.3	620.9	622.5
132.5°	629.5	631.5	633.5	635.5	637.4	639.2	640.8	642.4	644.1	645.7	647.1
135°	663.8	666.1	668.5	670.8	673.2	675.0	676.4	677.7	679.0	680.3	681.7
137.5°	698.5	700.1	701.8	703.4	705.0	706.6	708.1	709.6	711.1	712.7	714.1
140°	721.2	722.4	723.5	724.7	725.9	727.3	728.9	730.5	732.1	733.8	735.1
142.5°	740.2	741.2	742.3	743.4	744.4	745.8	747.7	749.6	751.4	753.3	754.5
145°	770.1	769.9	769.8	769.6	769.4	770.6	773.1	775.6	778.1	780.6	781.7
147.5°	796.0	795.5	794.9	794.4	793.8	794.8	797.2	799.7	802.1	804.6	805.4
150°	812.9	811.9	810.9	809.8	808.8	809.5	811.8	814.2	816.5	818.9	819.7
152.5°	827.2	826.0	824.9	823.7	822.6	823.1	825.4	827.6	829.8	832.1	832.9
155°	847.9	846.6	845.3	844.0	842.6	842.8	844.6	846.3	848.1	849.9	850.7
157.5°	864.1	863.0	861.9	860.7	859.7	859.7	860.9	862.1	863.4	864.6	865.6
160°	873.6	872.7	871.9	871.0	870.1	870.1	871.0	871.9	872.7	873.6	874.5
162.5°	882.0	881.2	880.3	879.4	878.5	878.4	879.2	880.1	880.8	881.6	882.5
165°	893.4	892.5	891.6	890.8	889.9	889.7	890.1	890.5	891.0	891.5	892.5
167.5°	901.8	901.0	900.1	899.2	898.3	898.1	898.5	898.9	899.4	899.8	900.8
170°	906.6	905.7	904.8	904.0	903.1	902.8	903.1	903.4	903.7	904.0	905.0
172.5°	909.7	908.9	908.0	907.1	906.3	906.0	906.3	906.5	906.8	907.1	908.1
175°	913.9	912.9	911.8	910.8	909.7	909.4	909.6	910.0	910.3	910.6	911.6
177.5°	914.5	913.7	912.9	912.1	911.3	910.9	911.0	911.2	911.3	911.3	912.2
180°	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	10.5	10.5	10.4	10.4	10.4	10.5	10.5	10.6
90°	14.7	15.4	16.1	16.7	17.0	17.2	17.5	17.8
92.5°	16.1	16.5	16.9	17.2	17.2	17.4	17.6	17.8
95°	27.2	27.9	28.7	28.9	28.8	28.7	28.6	28.4
97.5°	35.6	36.2	36.8	37.1	37.3	37.5	37.7	37.9
100°	40.0	41.1	42.3	43.1	43.4	43.6	43.9	44.2
102.5°	41.8	43.3	44.8	45.7	46.2	46.6	46.9	47.4
105°	43.5	45.1	46.7	47.8	48.4	49.0	49.6	50.1
107.5°	53.1	51.5	49.8	49.3	49.9	50.4	51.0	51.6
110°	86.1	71.4	56.8	49.8	50.3	51.0	51.6	52.1



TEST NUMBER: P331831-830

CATALOG NUMBER: S122RDIW-S865D710U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	184.3	130.8	77.3	50.8	51.3	51.7	52.2	52.7
115°	271.4	203.4	135.5	96.3	85.8	75.2	64.7	54.1
117.5°	418.1	401.6	385.2	359.7	325.0	290.3	255.6	220.9
120°	487.2	488.9	490.7	481.6	461.8	442.1	422.3	402.5
122.5°	516.9	517.9	519.1	517.6	513.8	509.9	506.1	502.3
125°	559.6	560.6	561.7	562.4	562.8	563.3	563.7	564.1
127.5°	599.1	600.6	602.1	602.9	602.9	603.0	603.1	603.2
130°	624.2	625.8	627.4	628.1	627.9	627.8	627.6	627.5
132.5°	648.5	649.9	651.2	651.9	651.7	651.6	651.4	651.3
135°	683.2	684.7	686.2	686.7	686.5	686.2	685.9	685.6
137.5°	715.5	716.9	718.4	718.9	718.3	717.8	717.4	716.8
140°	736.4	737.7	739.0	739.3	738.6	737.8	737.1	736.4
142.5°	755.6	756.9	758.1	758.3	757.6	756.9	756.1	755.4
145°	782.6	783.6	784.7	784.9	784.1	783.3	782.6	781.9
147.5°	806.2	806.9	807.7	807.8	807.1	806.5	805.9	805.2
150°	820.6	821.5	822.4	822.5	821.7	821.0	820.2	819.5
152.5°	833.8	834.7	835.6	835.6	834.5	833.6	832.6	831.6
155°	851.6	852.5	853.4	853.2	852.1	850.9	849.7	848.6
157.5°	866.7	867.6	868.6	868.6	867.4	866.3	865.2	863.9
160°	875.3	876.3	877.1	877.0	876.0	875.0	874.0	873.0
162.5°	883.5	884.5	885.5	885.4	884.1	882.9	881.6	880.3
165°	893.5	894.5	895.5	895.5	894.5	893.5	892.5	891.5
167.5°	901.8	902.9	903.8	903.7	902.4	901.1	899.8	898.4
170°	906.1	907.0	908.0	908.0	906.6	905.3	904.0	902.7
172.5°	909.2	910.2	911.3	911.1	909.7	908.4	907.1	905.8
175°	912.7	913.6	914.6	914.5	912.9	911.5	910.0	908.6
177.5°	913.0	913.8	914.6	914.5	913.5	912.4	911.3	910.3
180°	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9

(END OF REPORT)