

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: P331565

Luminaire Tested: **S122DIW-S865D710U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331565
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: S122DIW-S865D710U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6348.6 lumens
Efficiency: N/A
Efficacy: 118.4 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: General Diffuse

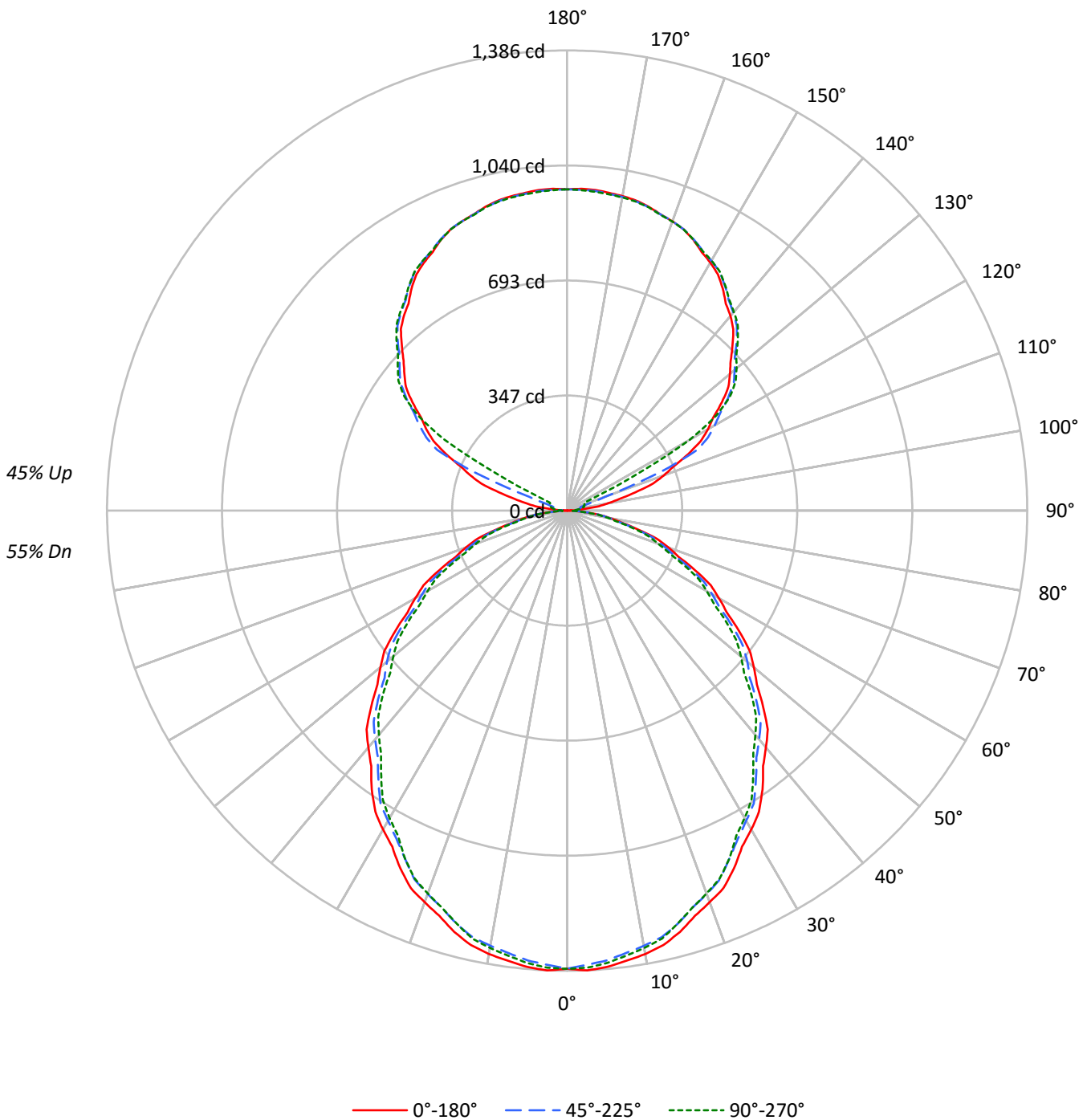
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55				
1	99	95	91	87	92	88	85	82	76	73	71	64	63	61	54	53	52	47				
2	90	83	76	71	83	77	72	67	66	62	59	57	54	51	47	45	43	39				
3	82	73	65	59	76	68	61	56	59	54	49	50	46	43	42	39	37	33				
4	75	64	56	50	70	60	53	47	52	47	42	45	40	37	38	34	32	28				
5	69	57	49	43	64	54	46	41	47	41	36	40	36	32	34	31	28	25				
6	64	51	43	37	59	48	41	36	42	36	32	36	32	28	31	27	24	22				
7	59	47	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19				
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17				
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	16				
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22281	22281	22281
5°	22366	22044	22174
10°	22233	21820	21930
15°	21959	21538	21514
20°	21569	21113	21089
25°	21180	20591	20591
30°	20681	20113	19939
35°	20217	19537	19249
40°	19633	18963	18598
45°	19057	18393	17938
50°	18432	17799	17166
55°	17779	17106	16473
60°	17053	16281	15684
65°	16275	15461	14751
70°	15286	14469	13780
75°	13905	13325	12994
80°	12338	11967	11353
85°	10078	9596	8596



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	2.0
10°-20°	365.1	5.8
20°-30°	536.7	8.5
30°-40°	623.4	9.8
40°-50°	622.7	9.8
50°-60°	543.1	8.6
60°-70°	401.6	6.3
70°-80°	227.4	3.6
80°-90°	63.5	1.0
90°-100°	32.3	0.5
100°-110°	118.3	1.9
110°-120°	316.3	5.0
120°-130°	522.2	8.2
130°-140°	555.4	8.7
140°-150°	516.2	8.1
150°-160°	415.0	6.5
160°-170°	267.4	4.2
170°-180°	92.1	1.4
0°-30°	1031.6	16.2
0°-40°	1655.0	26.1
0°-60°	2820.8	44.4
0°-90°	3513.3	55.3
90°-120°	467.0	7.4
90°-150°	2060.7	32.5
90°-180°	2835.0	44.7
0°-180°	6348.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1380	1380	1380	1380	1380	
5°	1380	1374	1360	1370	1368	131
15°	1314	1305	1288	1293	1287	370
25°	1189	1178	1156	1158	1156	547
35°	1026	1012	991	983	977	640
45°	835	825	806	791	786	644
55°	632	623	608	592	585	565
65°	426	418	405	393	386	421
75°	223	220	214	206	208	238
85°	54	53	52	48	46	62
90°	1	8	14	17	19	5
95°	46	24	27	31	30	56
105°	213	222	43	50	53	227
115°	402	415	432	123	57	396
125°	569	578	592	596	598	507
135°	704	715	722	728	727	544
145°	817	817	828	833	830	511
155°	900	894	902	905	900	414
165°	948	944	946	950	946	268
175°	970	965	966	970	964	92
180°	968	968	968	968	968	



TEST NUMBER: P331565

CATALOG NUMBER: S122DIW-S865D710U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1386.4	1385.2	1384.0	1382.9	1381.7	1379.8	1377.2	1374.6	1372.0	1369.4	1371.8
5°	1380.0	1378.8	1377.7	1376.5	1375.3	1373.1	1369.9	1366.6	1363.4	1360.1	1362.5
7.5°	1367.8	1366.0	1364.2	1362.3	1360.5	1357.9	1354.6	1351.3	1348.0	1344.7	1347.1
10°	1356.1	1354.1	1352.0	1349.9	1347.9	1345.1	1341.5	1338.0	1334.5	1330.9	1333.3
12.5°	1340.2	1338.4	1336.6	1334.7	1332.9	1330.2	1326.7	1323.1	1319.6	1316.1	1317.7
15°	1313.7	1311.9	1310.1	1308.4	1306.6	1303.8	1300.0	1296.1	1292.3	1288.5	1289.6
17.5°	1279.7	1277.9	1276.2	1274.4	1272.6	1269.8	1265.9	1262.0	1258.1	1254.2	1255.6
20°	1255.3	1253.5	1251.8	1250.0	1248.2	1245.3	1241.1	1237.0	1232.9	1228.8	1229.6
22.5°	1230.9	1228.4	1225.9	1223.4	1221.0	1217.8	1213.9	1210.0	1206.1	1202.2	1202.4
25°	1188.9	1186.6	1184.2	1181.9	1179.5	1175.8	1170.8	1165.8	1160.8	1155.8	1156.4
27.5°	1141.2	1139.1	1136.9	1134.8	1132.7	1129.6	1125.7	1121.7	1117.8	1113.8	1113.0
30°	1109.3	1107.0	1104.6	1102.3	1099.9	1096.5	1092.1	1087.7	1083.2	1078.8	1077.9
32.5°	1075.4	1073.5	1071.6	1069.7	1067.8	1064.5	1059.9	1055.2	1050.6	1045.9	1044.3
35°	1025.7	1022.8	1019.8	1016.9	1013.9	1010.1	1005.4	1000.7	995.9	991.2	989.5
37.5°	969.7	967.1	964.5	961.9	959.4	955.7	951.0	946.3	941.5	936.8	934.6
40°	931.5	929.2	926.8	924.4	922.1	918.5	913.8	909.1	904.4	899.7	897.0
42.5°	894.4	892.0	889.6	887.3	884.9	881.4	876.7	872.0	867.2	862.5	859.6
45°	834.6	832.6	830.5	828.5	826.4	823.1	818.7	814.3	809.9	805.5	802.2
47.5°	775.2	773.3	771.3	769.4	767.4	764.1	759.5	754.9	750.3	745.7	742.3
50°	733.8	732.3	730.9	729.4	727.9	725.1	721.0	716.8	712.7	708.6	704.5
52.5°	693.5	691.5	689.6	687.6	685.7	682.8	678.9	675.0	671.1	667.2	663.8
55°	631.6	629.9	628.1	626.3	624.5	621.9	618.4	614.8	611.3	607.7	604.2
57.5°	569.5	568.1	566.7	565.3	563.9	561.2	557.3	553.4	549.5	545.6	542.2
60°	528.1	526.9	525.8	524.6	523.4	520.8	516.6	512.5	508.4	504.2	501.0
62.5°	487.8	485.9	484.0	482.1	480.2	477.7	474.5	471.3	468.1	465.0	462.0
65°	426.0	424.2	422.4	420.6	418.9	416.5	413.6	410.6	407.7	404.7	402.1
67.5°	363.1	361.6	360.2	358.8	357.4	355.4	352.7	350.0	347.4	344.7	342.7
70°	323.8	322.6	321.4	320.2	319.1	317.1	314.5	311.8	309.2	306.5	304.5
72.5°	283.4	282.3	281.1	279.9	278.7	277.3	275.6	273.9	272.1	270.4	268.4
75°	222.9	222.3	221.7	221.2	220.6	219.5	218.1	216.6	215.1	213.6	211.9
77.5°	168.8	167.8	166.8	165.8	164.8	164.0	163.4	162.8	162.2	161.6	160.7
80°	132.7	132.4	132.1	131.8	131.5	131.1	130.5	129.9	129.3	128.7	127.8
82.5°	98.7	98.7	98.6	98.5	98.5	98.3	97.9	97.6	97.2	96.9	95.7
85°	54.4	54.1	53.8	53.5	53.2	52.9	52.6	52.3	52.0	51.8	50.9
87.5°	19.2	19.1	19.0	18.9	18.7	18.6	18.3	18.1	17.9	17.7	17.1
90°	0.7	2.4	4.1	5.8	7.5	9.0	10.3	11.5	12.8	14.0	14.8
92.5°	14.1	14.0	13.8	13.7	13.5	13.8	14.4	15.0	15.6	16.2	16.6
95°	45.5	40.4	35.2	30.1	25.0	22.9	24.0	25.1	26.2	27.3	28.1
97.5°	90.3	75.8	61.4	46.9	32.4	26.5	29.0	31.5	34.0	36.5	37.2
100°	123.9	102.6	81.3	60.0	38.7	29.3	32.0	34.6	37.3	39.9	41.1
102.5°	160.9	156.4	151.8	147.3	142.8	129.5	107.4	85.3	63.1	41.0	42.6
105°	212.8	217.5	222.2	226.8	231.5	212.6	170.1	127.6	85.2	42.7	44.4
107.5°	272.0	275.8	279.6	283.3	287.1	263.5	212.6	161.7	110.7	59.8	58.0
110°	310.1	313.4	316.7	319.9	323.2	302.3	257.4	212.4	167.5	122.5	107.0



TEST NUMBER: P331565

CATALOG NUMBER: S122DIW-S865D710U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	346.0	348.9	351.8	354.6	357.5	353.4	342.3	331.2	320.1	309.0	252.3
115°	402.5	405.2	407.8	410.5	413.1	416.4	420.3	424.2	428.0	431.9	359.9
117.5°	453.1	456.0	459.0	461.9	464.9	467.7	470.4	473.1	475.7	478.4	461.0
120°	490.0	492.4	494.7	497.0	499.4	501.9	504.7	507.5	510.3	513.1	515.0
122.5°	521.4	523.9	526.3	528.8	531.2	534.0	537.0	540.1	543.1	546.2	547.3
125°	569.1	571.2	573.2	575.2	577.2	579.7	582.7	585.6	588.6	591.5	592.6
127.5°	612.4	614.6	616.9	619.1	621.4	623.6	625.8	628.0	630.2	632.4	634.0
130°	639.8	642.3	644.8	647.3	649.8	651.9	653.6	655.3	657.0	658.8	660.5
132.5°	667.9	670.0	672.1	674.2	676.3	678.2	679.9	681.6	683.4	685.1	686.5
135°	704.3	706.7	709.2	711.7	714.2	716.2	717.6	719.0	720.4	721.8	723.3
137.5°	741.1	742.8	744.6	746.3	748.0	749.7	751.3	752.9	754.5	756.1	757.6
140°	765.2	766.4	767.6	768.9	770.1	771.6	773.3	775.0	776.7	778.5	779.9
142.5°	785.3	786.4	787.6	788.7	789.8	791.3	793.3	795.3	797.2	799.2	800.5
145°	817.0	816.8	816.7	816.5	816.3	817.6	820.2	822.9	825.5	828.2	829.3
147.5°	844.5	844.0	843.4	842.8	842.2	843.2	845.8	848.4	851.0	853.6	854.5
150°	862.5	861.4	860.3	859.2	858.1	858.8	861.3	863.8	866.3	868.8	869.7
152.5°	877.6	876.4	875.2	873.9	872.7	873.3	875.7	878.0	880.4	882.8	883.7
155°	899.6	898.2	896.8	895.4	894.0	894.2	896.1	897.9	899.8	901.7	902.6
157.5°	916.8	915.6	914.4	913.2	912.1	912.1	913.4	914.7	916.0	917.3	918.4
160°	926.9	925.9	925.0	924.1	923.1	923.1	924.1	925.0	925.9	926.9	927.8
162.5°	935.8	934.9	934.0	933.0	932.1	932.0	932.8	933.7	934.5	935.3	936.3
165°	947.9	946.9	946.0	945.1	944.1	943.9	944.4	944.8	945.3	945.8	946.9
167.5°	956.8	955.9	955.0	954.0	953.1	952.9	953.3	953.7	954.2	954.6	955.7
170°	961.9	960.9	960.0	959.1	958.1	957.8	958.1	958.5	958.8	959.1	960.2
172.5°	965.2	964.3	963.4	962.4	961.5	961.2	961.5	961.8	962.1	962.4	963.5
175°	969.6	968.5	967.4	966.3	965.2	964.8	965.1	965.5	965.8	966.1	967.2
177.5°	970.3	969.4	968.5	967.7	966.8	966.4	966.5	966.7	966.8	966.9	967.8
180°	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5



TEST NUMBER: P331565

CATALOG NUMBER: S122DIW-S865D710U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1374.1	1376.5	1378.8	1379.8	1379.3	1378.8	1378.4	1377.9
5°	1364.8	1367.2	1369.6	1370.4	1369.9	1369.3	1368.7	1368.1
7.5°	1349.4	1351.8	1354.2	1355.0	1354.4	1353.7	1353.1	1352.4
10°	1335.6	1338.0	1340.4	1341.1	1340.2	1339.3	1338.4	1337.6
12.5°	1319.4	1321.0	1322.7	1323.2	1322.5	1321.9	1321.2	1320.6
15°	1290.8	1292.0	1293.2	1293.0	1291.6	1290.1	1288.6	1287.1
17.5°	1256.9	1258.3	1259.7	1259.6	1258.2	1256.8	1255.4	1254.0
20°	1230.5	1231.4	1232.3	1232.1	1231.0	1229.8	1228.6	1227.4
22.5°	1202.6	1202.7	1202.9	1202.7	1201.9	1201.2	1200.5	1199.8
25°	1157.0	1157.5	1158.1	1158.1	1157.5	1157.0	1156.4	1155.8
27.5°	1112.1	1111.2	1110.3	1109.2	1107.7	1106.3	1104.9	1103.5
30°	1077.0	1076.2	1075.3	1074.2	1073.1	1071.9	1070.7	1069.5
32.5°	1042.7	1041.1	1039.5	1038.1	1037.0	1035.8	1034.6	1033.4
35°	987.7	985.9	984.2	982.5	981.1	979.6	978.1	976.6
37.5°	932.5	930.3	928.1	926.3	924.9	923.5	922.1	920.6
40°	894.4	891.7	889.1	887.1	886.0	884.8	883.6	882.4
42.5°	856.7	853.8	851.0	848.7	847.0	845.4	843.7	842.1
45°	799.0	795.7	792.5	790.3	789.1	787.9	786.7	785.6
47.5°	738.9	735.5	732.1	729.5	727.8	726.1	724.4	722.7
50°	700.3	696.2	692.1	689.3	687.8	686.3	684.9	683.4
52.5°	660.3	656.9	653.5	650.8	648.9	646.9	645.0	643.0
55°	600.7	597.1	593.6	591.1	589.6	588.1	586.7	585.2
57.5°	538.7	535.2	531.7	529.4	528.3	527.2	526.1	524.9
60°	497.8	494.5	491.3	489.2	488.3	487.4	486.5	485.7
62.5°	458.9	455.9	452.9	450.9	449.7	448.6	447.5	446.4
65°	399.4	396.8	394.1	392.0	390.6	389.1	387.6	386.1
67.5°	340.6	338.5	336.5	334.9	333.7	332.5	331.3	330.1
70°	302.4	300.3	298.3	296.6	295.5	294.3	293.1	291.9
72.5°	266.3	264.2	262.2	260.7	259.7	258.8	257.8	256.9
75°	210.1	208.3	206.6	206.0	206.6	207.2	207.7	208.3
77.5°	159.9	159.0	158.1	157.2	156.4	155.6	154.8	153.9
80°	126.9	126.1	125.2	124.4	123.8	123.3	122.7	122.1
82.5°	94.6	93.5	92.4	91.8	91.6	91.5	91.4	91.3
85°	50.0	49.1	48.2	47.6	47.3	47.0	46.7	46.4
87.5°	16.6	16.0	15.5	15.1	14.9	14.7	14.6	14.4
90°	15.6	16.3	17.1	17.7	18.0	18.3	18.6	18.9
92.5°	17.1	17.5	17.9	18.2	18.3	18.5	18.7	18.9
95°	28.9	29.6	30.4	30.7	30.6	30.4	30.3	30.1
97.5°	37.8	38.4	39.0	39.4	39.6	39.8	40.0	40.2
100°	42.4	43.6	44.9	45.7	46.0	46.3	46.6	46.9
102.5°	44.3	45.9	47.5	48.5	49.0	49.4	49.8	50.3
105°	46.1	47.8	49.5	50.7	51.3	52.0	52.6	53.2
107.5°	56.3	54.6	52.8	52.3	52.9	53.5	54.1	54.7
110°	91.4	75.8	60.3	52.8	53.4	54.1	54.7	55.3



TEST NUMBER: P331565

CATALOG NUMBER: S122DIW-S865D710U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	195.5	138.8	82.0	53.9	54.4	54.9	55.4	55.9
115°	287.9	215.8	143.8	102.2	91.0	79.8	68.6	57.4
117.5°	443.6	426.1	408.7	381.6	344.8	308.0	271.2	234.4
120°	516.9	518.7	520.6	511.0	490.0	469.0	448.0	427.0
122.5°	548.4	549.5	550.7	549.2	545.1	541.0	537.0	532.9
125°	593.7	594.8	595.9	596.7	597.1	597.6	598.1	598.5
127.5°	635.6	637.2	638.8	639.6	639.7	639.8	639.9	640.0
130°	662.2	663.9	665.6	666.4	666.2	666.1	665.9	665.8
132.5°	688.0	689.5	690.9	691.6	691.4	691.3	691.1	691.0
135°	724.9	726.4	728.0	728.6	728.3	728.0	727.7	727.4
137.5°	759.1	760.6	762.2	762.7	762.1	761.6	761.1	760.5
140°	781.3	782.7	784.1	784.4	783.6	782.8	782.0	781.3
142.5°	801.7	803.0	804.3	804.5	803.8	803.0	802.2	801.4
145°	830.3	831.4	832.5	832.7	831.9	831.1	830.3	829.6
147.5°	855.3	856.1	856.9	857.0	856.3	855.7	855.0	854.3
150°	870.6	871.6	872.5	872.6	871.8	871.0	870.2	869.5
152.5°	884.6	885.6	886.5	886.5	885.4	884.4	883.4	882.3
155°	903.5	904.5	905.4	905.2	904.0	902.8	901.5	900.3
157.5°	919.5	920.5	921.6	921.5	920.3	919.1	917.9	916.6
160°	928.7	929.7	930.6	930.5	929.4	928.3	927.3	926.2
162.5°	937.4	938.4	939.5	939.4	938.0	936.7	935.3	934.0
165°	948.0	949.0	950.1	950.1	949.0	948.0	946.9	945.8
167.5°	956.8	957.9	958.9	958.8	957.4	956.0	954.6	953.2
170°	961.3	962.3	963.4	963.3	961.9	960.5	959.1	957.7
172.5°	964.6	965.7	966.8	966.6	965.2	963.8	962.4	961.0
175°	968.3	969.3	970.4	970.2	968.6	967.1	965.5	964.0
177.5°	968.7	969.5	970.4	970.3	969.2	968.0	966.9	965.8
180°	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5

(END OF REPORT)