

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: P331576-840

Luminaire Tested: **S122DIW-S865D1240U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331576-840
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-S865D1240U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7872.5 lumens
Efficiency: N/A
Efficacy: 112.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

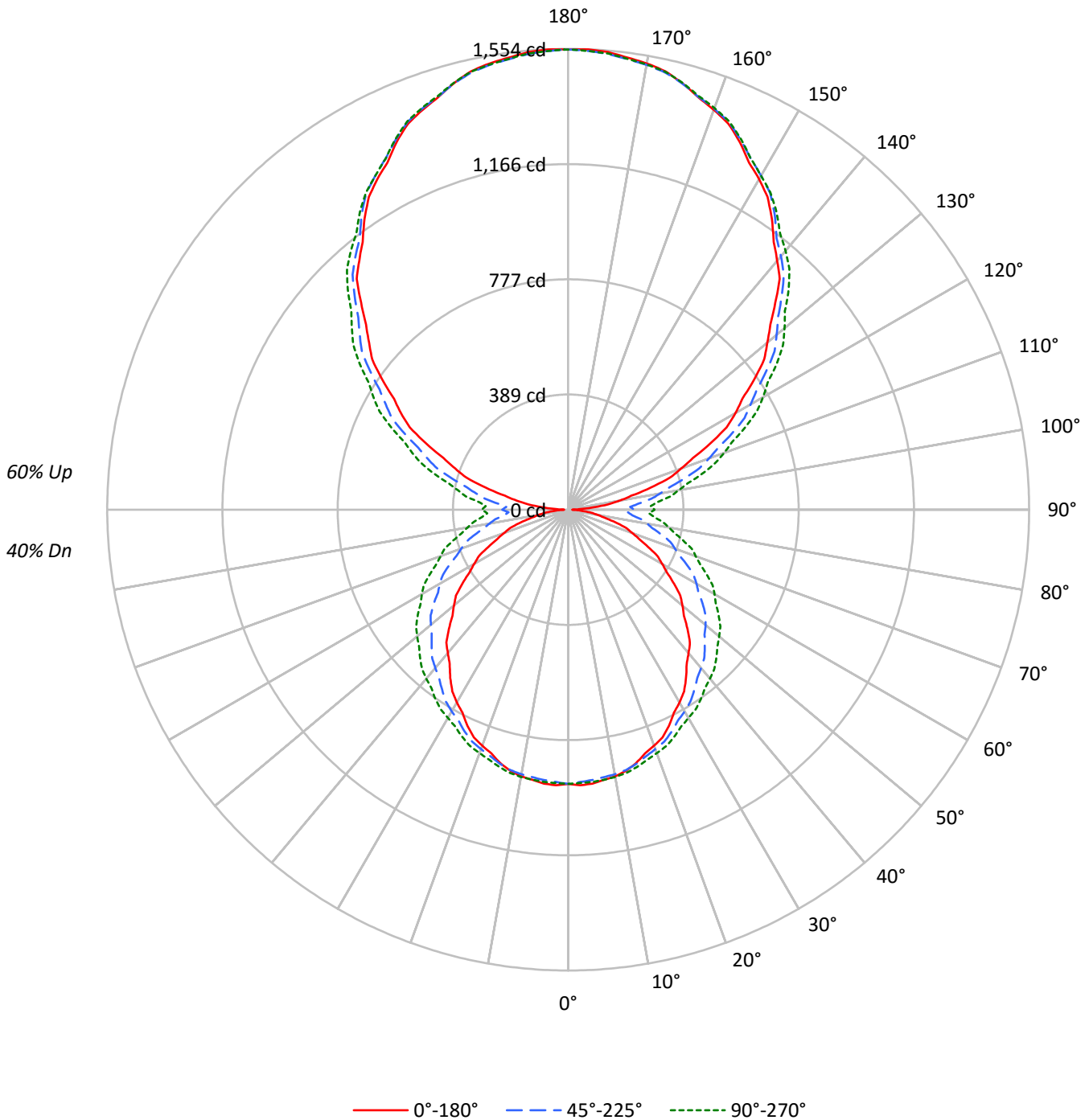
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47
1	94	90	85	81	85	81	78	74	66	64	61	52	50	49	39	38	37
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	27	25
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21
5	65	53	45	38	58	48	41	35	39	34	30	31	27	24	24	21	18
6	59	47	39	33	54	43	36	31	35	30	26	28	24	21	21	18	16
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13
9	47	35	27	22	43	32	25	21	26	21	18	21	17	14	16	13	11
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	1.1
10°-20°	251.2	3.2
20°-30°	380.7	4.8
30°-40°	463.7	5.9
40°-50°	498.9	6.3
50°-60°	484.5	6.2
60°-70°	423.0	5.4
70°-80°	325.7	4.1
80°-90°	224.8	2.9
90°-100°	248.9	3.2
100°-110°	415.3	5.3
110°-120°	594.6	7.6
120°-130°	727.0	9.2
130°-140°	787.4	10.0
140°-150°	758.4	9.6
150°-160°	633.6	8.0
160°-170°	420.3	5.3
170°-180°	146.9	1.9
0°-30°	719.6	9.1
0°-40°	1183.3	15.0
0°-60°	2166.6	27.5
0°-90°	3140.1	39.9
90°-120°	1258.8	16.0
90°-150°	3531.6	44.9
90°-180°	4732.0	60.1
0°-180°	7872.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	15	109	223	272	291	13
95°	79	155	238	287	302	87
105°	288	333	403	451	468	305
115°	529	554	610	647	659	523
125°	765	778	816	847	858	684
135°	987	1002	1018	1043	1051	763
145°	1197	1206	1214	1223	1225	748
155°	1368	1372	1376	1382	1379	630
165°	1489	1488	1488	1496	1490	420
175°	1549	1545	1542	1551	1544	147
180°	1552	1552	1552	1552	1552	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.6	44.9	63.4	81.9	100.3	119.7	140.1	160.4	180.8	201.1	213.1
90°	14.7	35.4	56.2	77.0	97.8	120.9	146.3	171.8	197.2	222.7	234.1
92.5°	35.6	54.2	72.9	91.6	110.2	129.5	149.3	169.2	189.0	208.8	220.7
95°	78.8	95.7	112.6	129.6	146.4	164.1	182.6	201.0	219.4	237.9	249.2
97.5°	133.8	148.8	163.8	178.8	193.8	210.5	228.7	246.9	265.2	283.5	294.5
100°	175.7	189.0	202.4	215.7	229.0	244.5	262.1	279.6	297.2	314.7	325.7
102.5°	218.6	230.6	242.5	254.4	266.3	280.9	298.2	315.6	332.9	350.1	361.1
105°	288.2	297.7	307.2	316.8	326.3	339.0	355.1	371.2	387.3	403.3	414.3
107.5°	359.7	367.9	376.1	384.3	392.4	403.9	418.8	433.6	448.5	463.3	473.5
110°	404.8	412.4	420.1	427.9	435.6	446.7	461.3	475.8	490.5	505.0	514.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	455.0	461.8	468.5	475.2	482.0	492.2	505.8	519.5	533.1	546.7	555.6
115°	529.2	534.1	539.2	544.2	549.3	558.2	571.0	583.8	596.6	609.5	618.0
117.5°	601.7	606.1	610.6	615.1	619.6	627.1	637.9	648.6	659.4	670.1	678.3
120°	650.9	654.4	657.9	661.5	665.0	671.5	681.1	690.6	700.2	709.8	718.2
122.5°	695.9	699.2	702.5	705.7	709.0	715.4	725.0	734.6	744.2	753.7	761.1
125°	764.8	767.4	770.0	772.6	775.3	780.9	789.5	798.2	806.9	815.5	822.6
127.5°	833.1	836.2	839.2	842.2	845.2	850.0	856.7	863.3	869.9	876.6	882.9
130°	876.1	879.6	883.0	886.6	890.0	894.6	900.3	905.9	911.6	917.3	923.8
132.5°	924.2	927.1	929.9	932.6	935.4	939.3	944.2	949.2	954.1	959.1	964.6
135°	987.3	990.6	993.7	996.9	1000.2	1003.5	1007.1	1010.7	1014.2	1017.7	1023.7
137.5°	1055.2	1057.7	1060.3	1062.9	1065.4	1067.7	1069.8	1071.9	1073.9	1076.0	1081.3
140°	1096.0	1098.3	1100.7	1103.0	1105.3	1107.5	1109.5	1111.6	1113.7	1115.7	1120.4
142.5°	1137.9	1140.2	1142.6	1144.9	1147.2	1148.9	1150.0	1151.1	1152.3	1153.4	1157.4
145°	1196.8	1198.9	1200.9	1203.0	1205.0	1206.9	1208.6	1210.3	1212.1	1213.9	1215.9
147.5°	1250.5	1252.9	1255.4	1257.9	1260.3	1262.1	1263.2	1264.5	1265.6	1266.8	1267.6
150°	1287.2	1288.9	1290.7	1292.4	1294.1	1295.7	1296.8	1298.0	1299.1	1300.3	1301.1
152.5°	1319.7	1321.4	1323.1	1324.8	1326.7	1328.2	1329.6	1331.0	1332.4	1333.8	1334.9
155°	1368.4	1369.3	1370.1	1371.0	1371.9	1372.7	1373.6	1374.4	1375.3	1376.2	1377.7
157.5°	1410.0	1410.6	1411.2	1411.8	1412.3	1412.9	1413.4	1413.9	1414.4	1415.0	1416.9
160°	1435.1	1435.7	1436.3	1436.9	1437.4	1437.9	1438.1	1438.5	1438.8	1439.1	1440.8
162.5°	1458.1	1458.3	1458.4	1458.5	1458.6	1458.9	1459.2	1459.5	1459.8	1460.1	1462.0
165°	1488.8	1488.5	1488.2	1487.9	1487.6	1487.5	1487.5	1487.5	1487.5	1487.5	1489.6
167.5°	1514.5	1513.6	1512.8	1511.9	1511.0	1510.6	1510.5	1510.5	1510.4	1510.3	1512.4
170°	1528.1	1527.2	1526.4	1525.5	1524.6	1524.1	1523.8	1523.5	1523.2	1522.9	1524.9
172.5°	1537.5	1536.7	1535.8	1534.9	1534.1	1533.5	1533.2	1532.9	1532.6	1532.3	1534.4
175°	1549.0	1548.2	1547.3	1546.4	1545.6	1544.9	1544.3	1543.7	1543.1	1542.5	1544.6
177.5°	1553.8	1553.1	1552.4	1551.7	1551.0	1550.4	1549.9	1549.4	1549.0	1548.5	1549.9
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	225.1	237.1	249.2	257.1	261.1	264.9	268.7	272.7
90°	245.4	256.7	268.0	275.6	279.5	283.4	287.2	291.0
92.5°	232.5	244.3	256.0	263.8	267.4	271.0	274.7	278.3
95°	260.5	271.9	283.2	290.3	293.4	296.3	299.3	302.3
97.5°	305.5	316.5	327.5	334.8	338.2	341.7	345.2	348.6
100°	336.8	347.8	358.8	365.8	368.8	371.7	374.8	377.7
102.5°	372.1	383.1	394.3	401.2	404.1	407.2	410.1	413.1
105°	425.4	436.4	447.4	454.4	457.8	461.0	464.3	467.6
107.5°	483.8	494.0	504.2	510.4	512.3	514.2	516.1	518.1
110°	524.1	533.6	543.2	549.2	551.6	553.9	556.3	558.8



TEST NUMBER: P331576-840

CATALOG NUMBER: S122DIW-S865D1240U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	564.4	573.3	582.1	587.8	590.5	593.1	595.7	598.3
115°	626.7	635.3	644.0	649.5	651.9	654.3	656.7	659.1
117.5°	686.4	694.5	702.7	707.8	709.9	712.2	714.3	716.4
120°	726.5	734.9	743.2	748.6	750.9	753.4	755.8	758.2
122.5°	768.5	775.9	783.3	788.1	790.2	792.4	794.6	796.7
125°	829.8	837.0	844.1	849.0	851.3	853.7	856.2	858.5
127.5°	889.3	895.5	901.9	905.9	907.7	909.3	911.0	912.7
130°	930.4	937.0	943.5	947.5	948.7	949.9	951.1	952.3
132.5°	970.3	975.9	981.6	985.1	986.5	988.0	989.5	990.9
135°	1029.7	1035.6	1041.6	1045.3	1046.8	1048.3	1049.9	1051.4
137.5°	1086.5	1091.8	1097.0	1100.0	1100.9	1101.8	1102.6	1103.5
140°	1125.2	1130.0	1134.8	1137.4	1138.1	1138.7	1139.3	1139.9
142.5°	1161.4	1165.5	1169.5	1171.7	1172.2	1172.6	1173.0	1173.3
145°	1218.0	1220.1	1222.1	1223.4	1223.7	1224.1	1224.4	1224.7
147.5°	1268.5	1269.4	1270.3	1270.5	1270.1	1269.7	1269.3	1268.9
150°	1302.0	1302.9	1303.7	1303.7	1302.9	1302.0	1301.1	1300.3
152.5°	1336.1	1337.1	1338.2	1338.2	1337.1	1336.1	1334.9	1333.8
155°	1379.2	1380.6	1382.0	1382.3	1381.5	1380.6	1379.7	1378.9
157.5°	1419.0	1420.9	1422.9	1423.2	1421.8	1420.4	1419.0	1417.5
160°	1442.6	1444.3	1446.0	1446.3	1445.2	1444.0	1442.9	1441.7
162.5°	1464.0	1465.9	1467.9	1468.2	1466.8	1465.4	1464.0	1462.7
165°	1491.6	1493.6	1495.7	1495.9	1494.5	1493.1	1491.6	1490.2
167.5°	1514.4	1516.4	1518.4	1518.7	1517.2	1515.7	1514.2	1512.7
170°	1526.9	1528.9	1531.1	1531.2	1529.4	1527.7	1525.9	1524.2
172.5°	1536.4	1538.4	1540.4	1540.5	1538.8	1537.1	1535.4	1533.6
175°	1546.6	1548.6	1550.6	1550.8	1549.0	1547.3	1545.6	1543.8
177.5°	1551.4	1552.8	1554.1	1554.1	1552.8	1551.4	1549.9	1548.5
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7

(END OF REPORT)