

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: P331582-840

Luminaire Tested: **S122DIW-S865D1440U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331582-840
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-S865D1440U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8579.3 lumens
Efficiency: N/A
Efficacy: 112.0 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

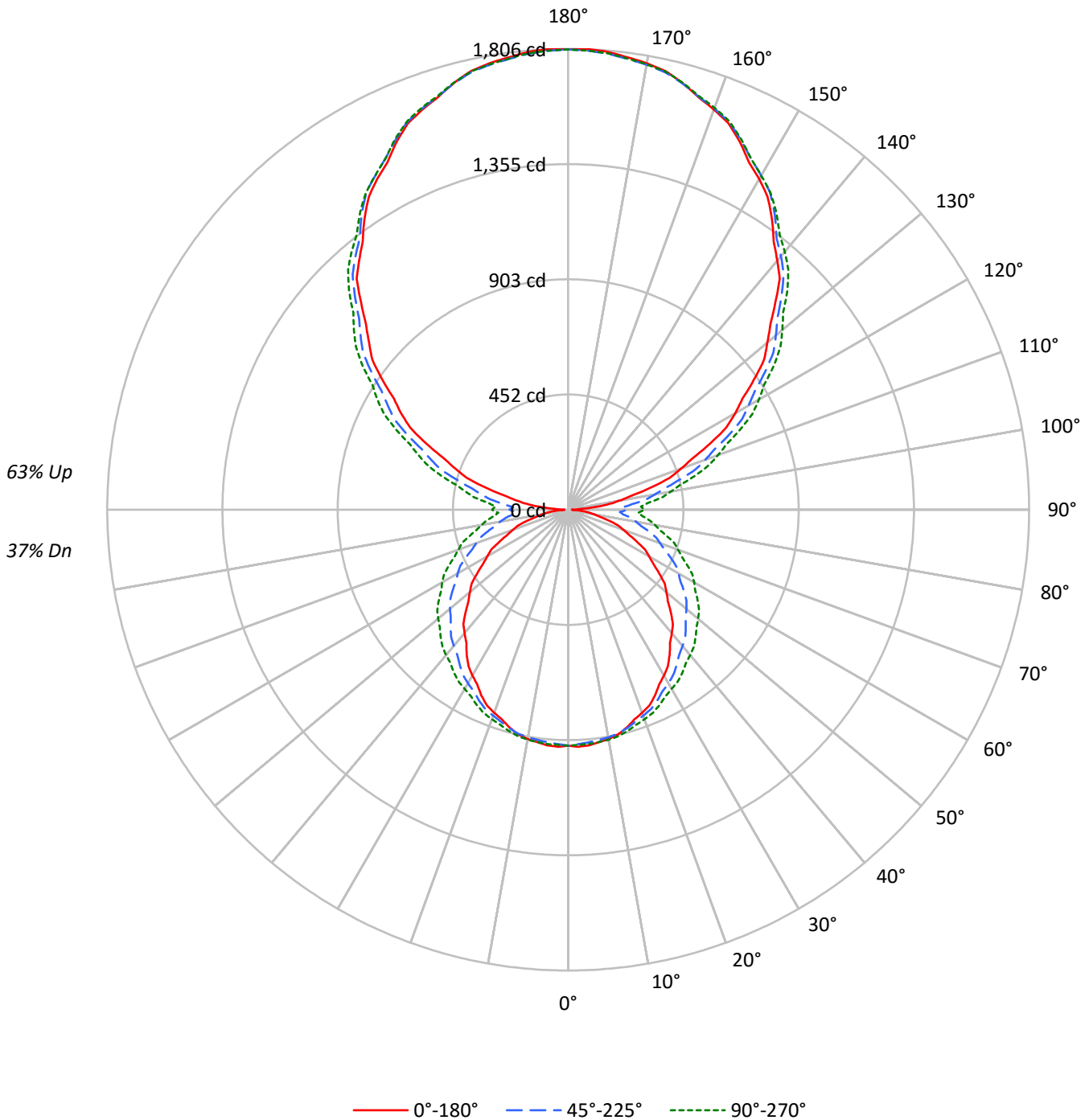
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	60	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

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	1.0
10°-20°	251.2	2.9
20°-30°	380.7	4.4
30°-40°	463.7	5.4
40°-50°	498.9	5.8
50°-60°	484.5	5.6
60°-70°	423.0	4.9
70°-80°	325.7	3.8
80°-90°	225.8	2.6
90°-100°	264.9	3.1
100°-110°	465.0	5.4
110°-120°	679.5	7.9
120°-130°	838.6	9.8
130°-140°	912.8	10.6
140°-150°	881.3	10.3
150°-160°	736.7	8.6
160°-170°	488.6	5.7
170°-180°	170.8	2.0
0°-30°	719.6	8.4
0°-40°	1183.3	13.8
0°-60°	2166.6	25.3
0°-90°	3141.1	36.6
90°-120°	1409.4	16.4
90°-150°	4042.1	47.1
90°-180°	5438.0	63.4
0°-180°	8579.3	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	112	230	279	298	13
95°	90	168	252	300	316	99
105°	334	379	450	498	515	353
115°	614	640	696	733	744	607
125°	889	904	941	971	983	794
135°	1148	1164	1181	1206	1214	887
145°	1392	1402	1411	1420	1422	869
155°	1591	1596	1600	1607	1603	732
165°	1731	1730	1730	1739	1732	488
175°	1801	1797	1793	1803	1795	171
180°	1804	1804	1804	1804	1804	



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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	45.1	63.7	82.2	100.8	120.4	140.9	161.5	182.0	202.6	214.6
90°	14.9	36.3	57.6	78.9	100.3	124.2	150.7	177.1	203.7	230.1	241.4
92.5°	39.4	58.5	77.6	96.6	115.6	135.2	155.3	175.4	195.5	215.6	227.4
95°	89.9	107.2	124.6	142.0	159.4	177.3	195.9	214.5	233.0	251.6	262.9
97.5°	154.0	169.5	184.9	200.3	215.7	232.7	251.1	269.5	287.9	306.4	317.4
100°	202.7	216.4	230.1	243.9	257.6	273.4	291.0	308.7	326.4	344.1	355.1
102.5°	252.8	265.1	277.3	289.5	301.7	316.6	334.1	351.5	369.0	386.6	397.6
105°	334.1	343.7	353.4	362.9	372.6	385.6	401.7	417.9	434.0	450.2	461.3
107.5°	417.2	425.6	433.9	442.4	450.8	462.4	477.3	492.0	506.9	521.7	532.0
110°	469.7	477.7	485.6	493.6	501.6	512.9	527.6	542.1	556.7	571.3	580.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	528.2	535.2	542.2	549.3	556.3	566.6	580.3	593.8	607.4	621.1	629.8
115°	614.3	619.7	624.9	630.3	635.5	644.6	657.3	670.0	682.8	695.5	704.1
117.5°	698.8	703.7	708.5	713.4	718.2	725.9	736.4	746.9	757.4	767.9	775.9
120°	756.1	760.0	763.9	767.8	771.7	778.2	787.5	796.7	805.9	815.1	823.4
122.5°	808.5	812.2	816.0	819.6	823.3	829.9	839.2	848.5	857.8	867.1	874.3
125°	888.8	891.8	894.8	897.9	900.9	906.7	915.2	923.7	932.2	940.8	947.8
127.5°	968.2	971.8	975.3	978.9	982.4	987.4	993.9	1000.4	1006.8	1013.3	1019.5
130°	1018.1	1022.3	1026.3	1030.5	1034.5	1039.4	1045.0	1050.6	1056.1	1061.7	1068.1
132.5°	1074.2	1077.4	1080.8	1084.0	1087.3	1091.5	1096.4	1101.4	1106.3	1111.3	1116.7
135°	1147.7	1151.4	1155.2	1158.9	1162.7	1166.3	1169.9	1173.6	1177.3	1180.9	1186.8
137.5°	1226.6	1229.6	1232.5	1235.6	1238.5	1241.1	1243.3	1245.5	1247.7	1249.9	1255.1
140°	1274.0	1276.9	1279.6	1282.3	1285.1	1287.6	1289.9	1292.2	1294.4	1296.8	1301.5
142.5°	1322.8	1325.5	1328.3	1331.0	1333.8	1335.8	1337.1	1338.4	1339.6	1340.9	1344.9
145°	1391.5	1393.9	1396.2	1398.6	1401.0	1403.2	1405.2	1407.2	1409.3	1411.3	1413.4
147.5°	1453.9	1456.7	1459.6	1462.5	1465.3	1467.4	1468.7	1470.1	1471.5	1472.8	1473.8
150°	1496.5	1498.5	1500.7	1502.7	1504.7	1506.3	1507.7	1509.0	1510.5	1511.8	1512.8
152.5°	1534.3	1536.3	1538.3	1540.3	1542.5	1544.3	1545.9	1547.5	1549.1	1550.7	1552.1
155°	1590.9	1592.0	1593.0	1594.0	1595.0	1596.0	1597.0	1598.0	1599.0	1600.0	1601.7
157.5°	1639.3	1640.0	1640.7	1641.4	1642.0	1642.7	1643.4	1644.0	1644.6	1645.2	1647.4
160°	1668.6	1669.3	1669.9	1670.6	1671.3	1671.8	1672.1	1672.4	1672.8	1673.1	1675.2
162.5°	1695.4	1695.6	1695.7	1695.8	1696.0	1696.2	1696.5	1696.9	1697.2	1697.5	1699.8
165°	1731.0	1730.7	1730.3	1730.0	1729.7	1729.5	1729.5	1729.5	1729.5	1729.5	1731.8
167.5°	1760.8	1759.8	1758.8	1757.8	1756.8	1756.3	1756.2	1756.2	1756.1	1756.0	1758.4
170°	1776.7	1775.6	1774.6	1773.6	1772.6	1771.9	1771.6	1771.3	1770.9	1770.6	1772.9
172.5°	1787.7	1786.7	1785.6	1784.6	1783.6	1782.9	1782.6	1782.2	1781.9	1781.5	1783.9
175°	1801.0	1800.0	1799.0	1798.0	1797.0	1796.1	1795.4	1794.7	1794.1	1793.4	1795.8
177.5°	1806.5	1805.7	1804.9	1804.1	1803.3	1802.6	1802.0	1801.5	1801.0	1800.4	1802.0
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1



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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°	226.6	238.6	250.6	258.5	262.5	266.3	270.2	274.1
90°	252.7	263.9	275.1	282.7	286.6	290.5	294.4	298.3
92.5°	239.2	251.1	262.9	270.6	274.3	277.9	281.6	285.2
95°	274.2	285.5	296.8	303.9	306.8	309.7	312.6	315.5
97.5°	328.4	339.4	350.4	357.7	361.1	364.6	368.0	371.5
100°	366.2	377.2	388.2	395.2	398.1	401.0	403.9	406.9
102.5°	408.6	419.7	430.7	437.8	440.7	443.6	446.6	449.5
105°	472.4	483.5	494.5	501.8	505.0	508.3	511.6	514.8
107.5°	542.3	552.5	562.8	568.9	570.6	572.3	574.0	575.7
110°	590.4	599.9	609.5	615.3	617.5	619.9	622.1	624.4



TEST NUMBER: P331582-840

CATALOG NUMBER: S122DIW-S865D1440U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	638.4	647.2	655.9	661.6	664.1	666.6	669.1	671.7
115°	712.7	721.2	729.8	735.3	737.5	739.8	742.0	744.3
117.5°	784.0	791.9	799.9	805.0	807.0	809.0	811.0	813.0
120°	831.7	840.1	848.4	853.7	856.0	858.3	860.5	862.7
122.5°	881.7	889.0	896.3	900.9	902.9	905.0	907.1	909.2
125°	954.8	961.8	968.9	973.5	975.8	978.3	980.6	982.9
127.5°	1025.6	1031.8	1037.9	1041.9	1043.4	1044.9	1046.4	1047.9
130°	1074.6	1081.1	1087.5	1091.4	1092.4	1093.4	1094.4	1095.4
132.5°	1122.2	1127.5	1133.0	1136.3	1137.6	1138.9	1140.2	1141.6
135°	1192.8	1198.7	1204.6	1208.2	1209.6	1210.9	1212.3	1213.7
137.5°	1260.3	1265.5	1270.7	1273.6	1274.3	1275.0	1275.7	1276.4
140°	1306.3	1311.0	1315.9	1318.4	1318.9	1319.3	1319.7	1320.1
142.5°	1349.1	1353.1	1357.3	1359.4	1359.6	1359.8	1360.0	1360.1
145°	1415.5	1417.6	1419.8	1420.9	1421.1	1421.2	1421.3	1421.5
147.5°	1474.8	1475.7	1476.7	1476.9	1476.3	1475.8	1475.2	1474.6
150°	1513.8	1514.8	1515.8	1515.8	1514.8	1513.8	1512.8	1511.8
152.5°	1553.3	1554.6	1555.9	1555.9	1554.6	1553.3	1552.1	1550.7
155°	1603.5	1605.2	1606.8	1607.2	1606.2	1605.2	1604.2	1603.2
157.5°	1649.7	1652.0	1654.4	1654.7	1653.0	1651.4	1649.8	1648.2
160°	1677.2	1679.2	1681.2	1681.6	1680.2	1678.9	1677.6	1676.2
162.5°	1702.1	1704.5	1706.7	1707.1	1705.5	1703.8	1702.2	1700.5
165°	1734.2	1736.6	1739.0	1739.3	1737.6	1736.0	1734.2	1732.5
167.5°	1760.7	1763.1	1765.4	1765.7	1764.0	1762.2	1760.5	1758.7
170°	1775.3	1777.7	1780.1	1780.2	1778.2	1776.2	1774.1	1772.1
172.5°	1786.2	1788.7	1791.0	1791.2	1789.2	1787.2	1785.1	1783.1
175°	1798.2	1800.5	1802.9	1803.1	1801.0	1799.0	1797.0	1794.9
177.5°	1803.7	1805.3	1807.0	1807.0	1805.3	1803.7	1802.0	1800.4
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1

(END OF REPORT)