

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: P332771-840

Luminaire Tested: **S124DIW-S575D1560U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332771-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S575D1560U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8696.4 lumens
Efficiency: N/A
Efficacy: 143.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

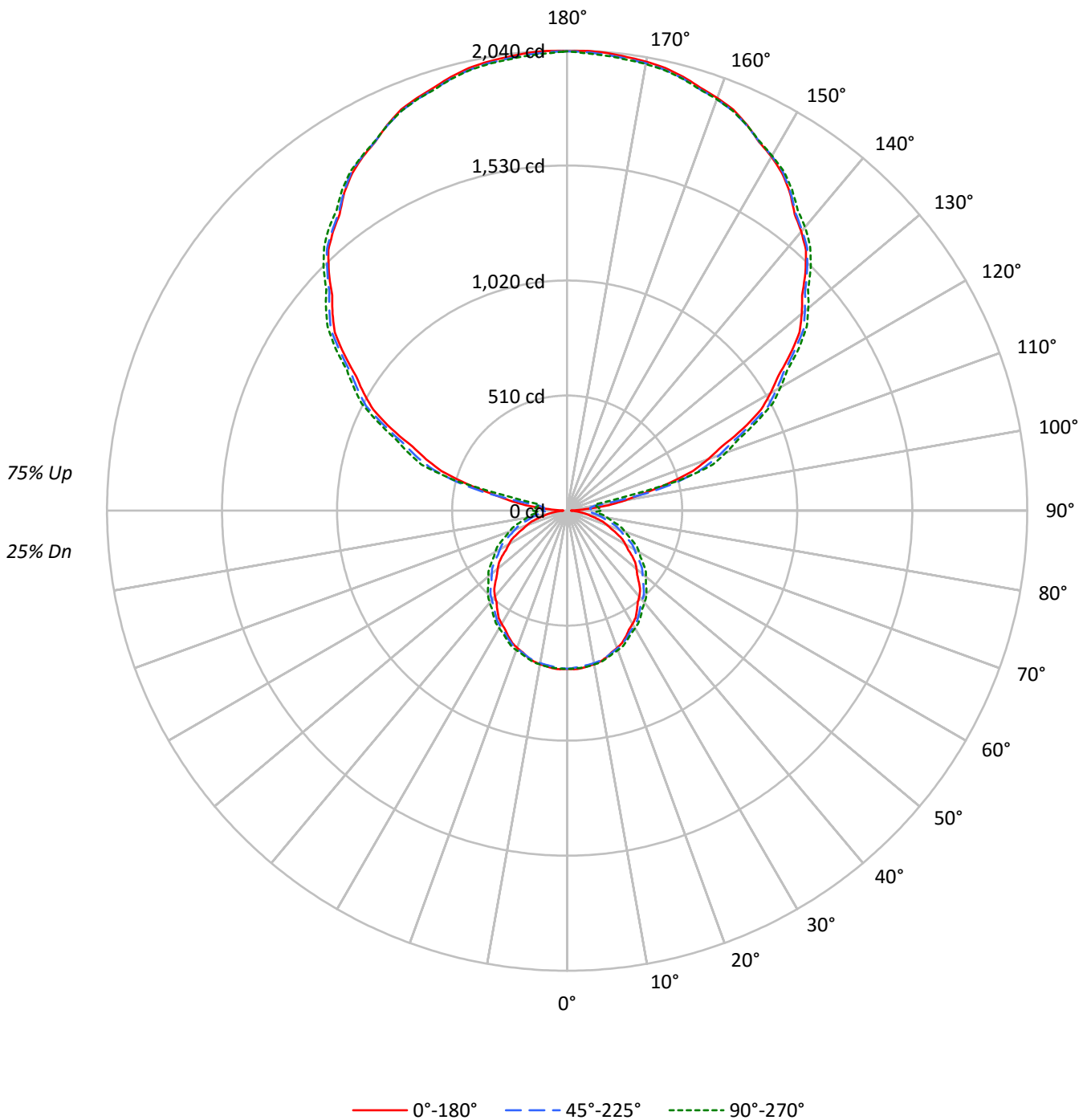
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	25
1	92	87	83	80	82	78	75	72	60	58	56	44	42	41	29	28	27	20
2	83	76	70	65	74	68	63	58	52	49	46	38	36	34	25	24	23	17
3	76	66	59	54	67	59	53	48	46	42	38	34	31	28	22	20	19	14
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16	12
5	63	52	44	38	56	46	40	35	36	31	28	26	23	21	17	15	14	10
6	58	46	38	33	51	42	35	30	32	27	24	24	20	18	16	14	12	9
7	54	42	34	28	47	37	31	26	29	24	21	22	18	16	14	12	11	8
8	50	38	30	25	44	34	27	23	26	22	18	20	16	14	13	11	9	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	12	10	8	6
10	43	31	24	20	38	28	22	18	22	18	14	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5666	5666	5666
5°	5683	5537	5552
10°	5649	5446	5442
15°	5598	5341	5312
20°	5521	5226	5185
25°	5435	5096	5047
30°	5342	4967	4904
35°	5237	4834	4779
40°	5153	4710	4648
45°	5027	4594	4537
50°	4920	4460	4418
55°	4811	4333	4278
60°	4641	4173	4153
65°	4454	4001	3997
70°	4226	3805	3816
75°	3910	3587	3652
80°	3559	3381	3492
85°	3112	3195	3398



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	0.8
10°-20°	190.4	2.2
20°-30°	287.9	3.3
30°-40°	348.3	4.0
40°-50°	368.3	4.2
50°-60°	346.6	4.0
60°-70°	287.5	3.3
70°-80°	202.0	2.3
80°-90°	120.1	1.4
90°-100°	137.4	1.6
100°-110°	494.2	5.7
110°-120°	883.1	10.2
120°-130°	1097.3	12.6
130°-140°	1161.9	13.4
140°-150°	1080.5	12.4
150°-160°	870.0	10.0
160°-170°	561.1	6.5
170°-180°	193.4	2.2
0°-30°	544.7	6.3
0°-40°	893.1	10.3
0°-60°	1607.9	18.5
0°-90°	2217.5	25.5
90°-120°	1514.7	17.4
90°-150°	4854.4	55.8
90°-180°	6479.0	74.5
0°-180°	8696.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	702	702	702	702	702	
5°	703	700	695	700	700	67
15°	674	674	672	678	678	190
25°	616	621	623	631	633	284
35°	539	548	556	567	570	337
45°	450	464	479	492	497	347
55°	352	369	392	407	412	314
65°	244	269	296	314	321	241
75°	135	164	197	218	226	144
85°	42	75	110	133	142	44
90°	17	65	111	142	153	12
95°	94	71	102	131	141	116
105°	465	491	527	556	512	488
115°	861	873	896	915	922	847
125°	1206	1212	1228	1247	1254	1077
135°	1494	1493	1504	1519	1528	1151
145°	1722	1725	1726	1732	1738	1076
155°	1887	1888	1884	1889	1885	870
165°	1990	1983	1983	1994	1981	562
175°	2036	2028	2028	2040	2024	194
180°	2036	2036	2036	2036	2036	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	704.3	703.9	703.5	703.0	702.6	701.9	700.7	699.6	698.4	697.3	698.3
5°	702.6	702.1	701.5	700.9	700.4	699.5	698.3	697.1	695.9	694.7	696.1
7.5°	696.6	696.2	695.9	695.6	695.3	694.7	693.7	692.7	691.6	690.5	692.2
10°	691.6	691.4	691.2	691.1	690.8	690.3	689.4	688.5	687.7	686.8	688.4
12.5°	684.6	684.6	684.6	684.5	684.5	684.2	683.6	683.0	682.4	681.8	683.2
15°	673.5	673.7	673.8	674.0	674.2	674.0	673.5	673.0	672.4	671.9	673.5
17.5°	658.2	658.7	659.2	659.7	660.4	660.6	660.5	660.4	660.2	660.1	661.7
20°	647.5	648.0	648.5	649.1	649.6	649.9	650.2	650.4	650.5	650.7	652.4
22.5°	635.6	636.2	636.9	637.5	638.2	638.7	639.0	639.3	639.6	640.0	641.8
25°	616.1	617.1	618.2	619.2	620.3	621.1	621.6	622.1	622.7	623.2	625.1
27.5°	594.4	595.9	597.4	599.1	600.6	601.7	602.5	603.3	604.1	604.9	606.7
30°	580.0	581.4	582.7	584.1	585.5	586.8	588.0	589.3	590.5	591.8	593.7
32.5°	564.2	565.9	567.5	569.3	571.0	572.5	573.8	575.2	576.5	577.9	580.1
35°	539.1	541.2	543.3	545.3	547.4	549.4	551.1	552.9	554.6	556.3	558.9
37.5°	513.8	516.1	518.6	521.0	523.4	525.7	527.9	530.1	532.2	534.3	536.8
40°	497.5	499.7	502.0	504.2	506.5	508.9	511.3	513.7	516.2	518.7	521.3
42.5°	478.6	481.1	483.6	486.3	488.8	491.5	494.3	497.2	500.1	502.9	505.8
45°	449.5	452.8	456.2	459.5	462.7	466.1	469.4	472.7	476.1	479.4	482.3
47.5°	421.7	425.1	428.5	431.9	435.4	439.0	442.8	446.7	450.5	454.3	457.5
50°	401.5	405.4	409.2	413.1	417.0	420.8	424.6	428.5	432.3	436.2	439.6
52.5°	381.4	385.3	389.1	392.9	396.8	400.9	405.4	409.7	414.1	418.5	422.0
55°	352.0	355.7	359.4	363.0	366.7	371.1	376.4	381.6	386.9	392.1	395.7
57.5°	319.2	323.8	328.3	332.9	337.4	342.2	347.4	352.6	357.9	363.0	367.2
60°	297.8	302.4	306.9	311.4	316.0	321.1	326.9	332.6	338.4	344.2	348.2
62.5°	277.1	282.1	287.0	292.0	296.9	302.3	308.0	313.8	319.6	325.4	329.3
65°	243.6	249.2	254.8	260.3	266.0	271.8	277.6	283.6	289.5	295.5	299.8
67.5°	211.4	217.3	223.3	229.2	235.1	241.3	247.6	254.0	260.3	266.7	271.1
70°	189.3	195.3	201.3	207.2	213.2	219.4	226.0	232.7	239.3	246.0	250.6
72.5°	168.0	174.1	180.2	186.2	192.3	198.8	205.9	213.0	220.0	227.1	231.7
75°	135.1	141.6	148.0	154.5	161.0	167.9	175.2	182.6	190.0	197.2	202.2
77.5°	104.5	111.4	118.3	125.0	131.9	139.2	146.8	154.5	162.2	169.9	174.8
80°	85.6	92.6	99.7	106.6	113.6	120.9	128.7	136.3	144.0	151.7	156.9
82.5°	66.8	74.0	81.3	88.6	95.8	103.3	111.0	118.7	126.3	134.1	139.5
85°	41.6	49.0	56.4	63.6	71.0	78.6	86.4	94.3	102.2	110.0	115.2
87.5°	24.1	32.0	39.9	47.8	55.6	63.7	71.9	80.1	88.3	96.4	101.9
90°	17.2	27.9	38.6	49.3	60.0	70.4	80.7	90.9	101.1	111.3	118.4
92.5°	31.1	37.7	44.1	50.6	57.1	65.4	75.6	85.8	96.1	106.3	113.3
95°	94.0	88.3	82.5	76.7	71.0	71.9	79.4	86.8	94.4	101.9	108.7
97.5°	187.1	199.2	211.5	223.6	235.7	226.4	195.7	165.0	134.4	103.7	108.5
100°	258.4	269.0	279.6	290.3	300.9	286.3	246.4	206.5	166.6	126.7	125.7
102.5°	338.8	347.3	355.7	364.2	372.6	377.1	377.7	378.3	378.9	379.4	321.9
105°	465.4	471.0	476.6	482.0	487.6	494.4	502.5	510.7	518.9	527.0	534.4
107.5°	584.4	588.2	592.2	596.0	600.0	606.0	614.5	622.9	631.3	639.7	645.5
110°	664.2	667.6	671.2	674.6	678.0	683.8	692.0	700.1	708.2	716.4	721.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	741.5	745.5	749.5	753.5	757.5	762.9	769.7	776.5	783.3	790.0	793.8
115°	860.6	863.1	865.8	868.4	870.9	874.8	880.1	885.3	890.6	895.9	900.4
117.5°	968.6	970.9	973.2	975.4	977.8	981.9	987.8	993.8	999.8	1005.6	1009.2
120°	1041.1	1042.9	1044.8	1046.6	1048.5	1051.9	1056.6	1061.3	1066.0	1070.8	1074.9
122.5°	1109.2	1110.1	1111.1	1112.1	1113.0	1116.0	1121.3	1126.5	1131.8	1137.0	1140.9
125°	1206.3	1207.4	1208.6	1209.8	1210.9	1213.4	1217.1	1220.8	1224.5	1228.2	1232.4
127.5°	1298.7	1298.9	1299.0	1299.2	1299.3	1301.9	1306.8	1311.7	1316.6	1321.5	1324.4
130°	1357.8	1358.0	1358.1	1358.3	1358.4	1360.4	1364.2	1368.0	1371.8	1375.6	1379.1
132.5°	1412.6	1413.0	1413.4	1413.9	1414.3	1416.3	1419.8	1423.3	1426.8	1430.4	1433.7
135°	1494.0	1493.7	1493.4	1493.0	1492.7	1493.8	1496.4	1498.9	1501.6	1504.1	1507.5
137.5°	1566.8	1566.8	1566.7	1566.7	1566.7	1567.7	1569.7	1571.9	1574.0	1576.0	1579.3
140°	1614.4	1614.9	1615.4	1615.9	1616.4	1617.0	1617.9	1618.7	1619.6	1620.4	1623.8
142.5°	1656.4	1657.5	1658.7	1659.9	1661.1	1661.8	1662.1	1662.4	1662.7	1663.0	1665.8
145°	1721.7	1722.5	1723.3	1724.2	1725.1	1725.5	1725.5	1725.5	1725.5	1725.5	1726.9
147.5°	1773.7	1775.4	1777.2	1778.9	1780.7	1781.3	1781.0	1780.7	1780.3	1780.0	1780.4
150°	1811.5	1812.7	1813.9	1815.0	1816.2	1816.6	1816.3	1816.0	1815.6	1815.3	1815.3
152.5°	1842.6	1843.6	1844.7	1845.7	1846.7	1847.0	1846.3	1845.7	1845.1	1844.5	1845.1
155°	1886.9	1887.2	1887.5	1887.9	1888.2	1887.9	1886.9	1885.9	1884.9	1883.8	1885.2
157.5°	1924.4	1924.2	1924.0	1923.8	1923.6	1922.9	1921.7	1920.6	1919.5	1918.2	1920.1
160°	1946.3	1945.3	1944.3	1943.3	1942.3	1941.6	1941.2	1940.9	1940.6	1940.2	1942.3
162.5°	1965.8	1964.5	1963.2	1962.0	1960.7	1959.8	1959.4	1959.1	1958.8	1958.4	1960.5
165°	1990.4	1988.7	1987.1	1985.4	1983.7	1982.9	1982.9	1982.9	1982.9	1982.9	1985.5
167.5°	2009.9	2008.2	2006.4	2004.7	2002.9	2002.0	2001.8	2001.6	2001.4	2001.1	2004.1
170°	2020.9	2018.9	2016.8	2014.8	2012.8	2012.0	2012.3	2012.7	2013.0	2013.3	2016.0
172.5°	2028.2	2026.2	2024.2	2022.2	2020.1	2019.2	2019.6	2019.9	2020.2	2020.6	2023.3
175°	2036.1	2034.1	2032.1	2030.0	2028.0	2027.2	2027.5	2027.8	2028.2	2028.5	2031.5
177.5°	2039.8	2037.9	2036.0	2034.1	2032.3	2031.5	2032.1	2032.7	2033.2	2033.7	2035.9
180°	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	699.3	700.2	701.3	701.7	701.6	701.4	701.3	701.1
5°	697.5	698.8	700.2	700.8	700.7	700.5	700.3	700.1
7.5°	693.8	695.3	696.9	697.6	697.4	697.2	697.0	696.9
10°	689.9	691.6	693.1	693.8	693.7	693.5	693.3	693.1
12.5°	684.7	686.1	687.5	688.2	688.2	688.1	688.1	688.1
15°	675.0	676.6	678.1	678.8	678.7	678.5	678.3	678.1
17.5°	663.3	664.9	666.5	667.2	667.1	667.0	666.8	666.7
20°	654.2	655.9	657.6	658.5	658.5	658.5	658.5	658.5
22.5°	643.5	645.2	646.9	648.0	648.2	648.5	648.8	649.1
25°	627.0	628.9	630.9	631.9	632.1	632.3	632.4	632.6
27.5°	608.5	610.3	612.1	613.1	613.3	613.5	613.7	613.9
30°	595.6	597.5	599.5	600.6	600.9	601.3	601.6	602.0
32.5°	582.3	584.5	586.7	587.9	588.3	588.7	589.1	589.4
35°	561.3	563.7	566.1	567.6	568.2	568.7	569.2	569.8
37.5°	539.4	541.8	544.3	545.8	546.3	546.9	547.4	548.1
40°	523.9	526.5	529.2	530.8	531.5	532.2	532.9	533.6
42.5°	508.8	511.6	514.5	516.2	516.8	517.4	518.0	518.5
45°	485.3	488.3	491.2	493.1	494.0	494.9	495.7	496.7
47.5°	460.5	463.6	466.7	468.7	469.8	470.8	471.9	472.9
50°	443.1	446.7	450.1	452.4	453.4	454.4	455.6	456.6
52.5°	425.6	429.0	432.5	434.7	435.9	436.9	437.9	439.0
55°	399.1	402.6	406.1	408.4	409.4	410.5	411.5	412.5
57.5°	371.3	375.6	379.7	382.2	383.2	384.2	385.2	386.2
60°	352.2	356.3	360.2	362.9	364.4	365.8	367.2	368.6
62.5°	333.4	337.4	341.4	344.1	345.5	346.9	348.3	349.7
65°	304.2	308.6	313.0	315.8	317.2	318.6	320.0	321.4
67.5°	275.6	280.0	284.5	287.3	288.7	290.0	291.4	292.8
70°	255.4	260.1	264.8	267.8	269.0	270.2	271.5	272.7
72.5°	236.2	240.9	245.4	248.3	249.7	251.1	252.5	253.8
75°	207.0	211.9	216.8	220.0	221.6	223.2	224.8	226.3
77.5°	179.9	184.8	189.8	193.1	194.7	196.4	198.0	199.8
80°	162.2	167.3	172.6	175.9	177.3	178.7	180.2	181.6
82.5°	144.8	150.2	155.6	159.1	160.6	162.1	163.6	165.2
85°	120.5	125.7	131.0	134.5	136.2	137.9	139.7	141.5
87.5°	107.3	112.9	118.4	121.9	123.6	125.2	126.9	128.6
90°	125.5	132.6	139.7	144.3	146.3	148.5	150.5	152.6
92.5°	120.2	127.1	134.1	138.4	139.9	141.5	143.0	144.5
95°	115.3	122.1	128.9	133.2	135.1	137.0	139.0	140.8
97.5°	113.3	118.1	122.8	126.1	127.9	129.8	131.7	133.5
100°	124.6	123.6	122.6	122.8	124.4	125.9	127.5	129.1
102.5°	264.5	206.9	149.5	121.5	122.9	124.3	125.7	127.1
105°	541.8	549.3	556.6	555.0	544.2	533.4	522.6	511.8
107.5°	651.3	657.1	662.9	667.0	669.5	672.1	674.7	677.2
110°	725.8	730.4	735.2	738.7	741.1	743.6	746.0	748.4



TEST NUMBER: P332771-840

CATALOG NUMBER: S124DIW-S575D1560U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	797.5	801.2	805.0	808.2	810.9	813.5	816.3	818.9
115°	904.9	909.4	913.9	916.8	918.1	919.3	920.5	921.7
117.5°	1012.7	1016.1	1019.7	1022.1	1023.3	1024.5	1025.8	1027.0
120°	1079.0	1083.3	1087.4	1089.8	1090.6	1091.4	1092.1	1092.8
122.5°	1144.9	1148.7	1152.7	1154.9	1155.5	1156.1	1156.6	1157.2
125°	1236.8	1241.1	1245.5	1248.4	1249.7	1251.1	1252.5	1253.8
127.5°	1327.4	1330.3	1333.3	1335.2	1336.2	1337.1	1338.0	1338.9
130°	1382.6	1386.0	1389.6	1391.8	1392.9	1393.9	1394.9	1396.0
132.5°	1437.0	1440.4	1443.7	1445.8	1446.6	1447.3	1448.1	1449.0
135°	1511.1	1514.5	1518.0	1520.6	1522.3	1524.0	1525.8	1527.5
137.5°	1582.6	1585.9	1589.2	1591.1	1591.9	1592.6	1593.2	1593.9
140°	1627.0	1630.3	1633.6	1635.8	1637.0	1638.2	1639.4	1640.6
142.5°	1668.5	1671.2	1674.0	1675.8	1676.6	1677.4	1678.2	1678.9
145°	1728.3	1729.6	1731.0	1732.4	1733.7	1735.2	1736.6	1737.9
147.5°	1780.8	1781.2	1781.6	1782.3	1783.2	1784.0	1784.9	1785.8
150°	1815.3	1815.3	1815.3	1815.5	1815.8	1816.1	1816.5	1816.8
152.5°	1845.6	1846.1	1846.7	1846.8	1846.6	1846.4	1846.2	1846.0
155°	1886.5	1887.9	1889.3	1889.5	1888.4	1887.4	1886.4	1885.4
157.5°	1921.8	1923.6	1925.3	1925.3	1923.6	1921.8	1920.1	1918.2
160°	1944.3	1946.3	1948.3	1948.3	1946.3	1944.3	1942.3	1940.2
162.5°	1962.6	1964.6	1966.6	1966.4	1964.2	1961.9	1959.5	1957.2
165°	1988.2	1990.9	1993.7	1993.5	1990.4	1987.4	1984.4	1981.4
167.5°	2007.1	2010.0	2013.1	2012.9	2009.4	2006.1	2002.7	1999.3
170°	2018.7	2021.4	2024.2	2023.8	2020.4	2017.0	2013.7	2010.2
172.5°	2026.0	2028.7	2031.4	2030.9	2027.3	2023.7	2020.0	2016.3
175°	2034.6	2037.7	2040.7	2040.2	2036.1	2032.1	2028.0	2024.0
177.5°	2038.0	2040.2	2042.4	2041.8	2038.6	2035.3	2032.1	2028.8
180°	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1

(END OF REPORT)