

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: P332801-840

Luminaire Tested: **S124DIW-S795D1560U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332801-840  
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-S795D1560U840-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 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: 9574.2 lumens  
Efficiency: N/A  
Efficacy: 140.6 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

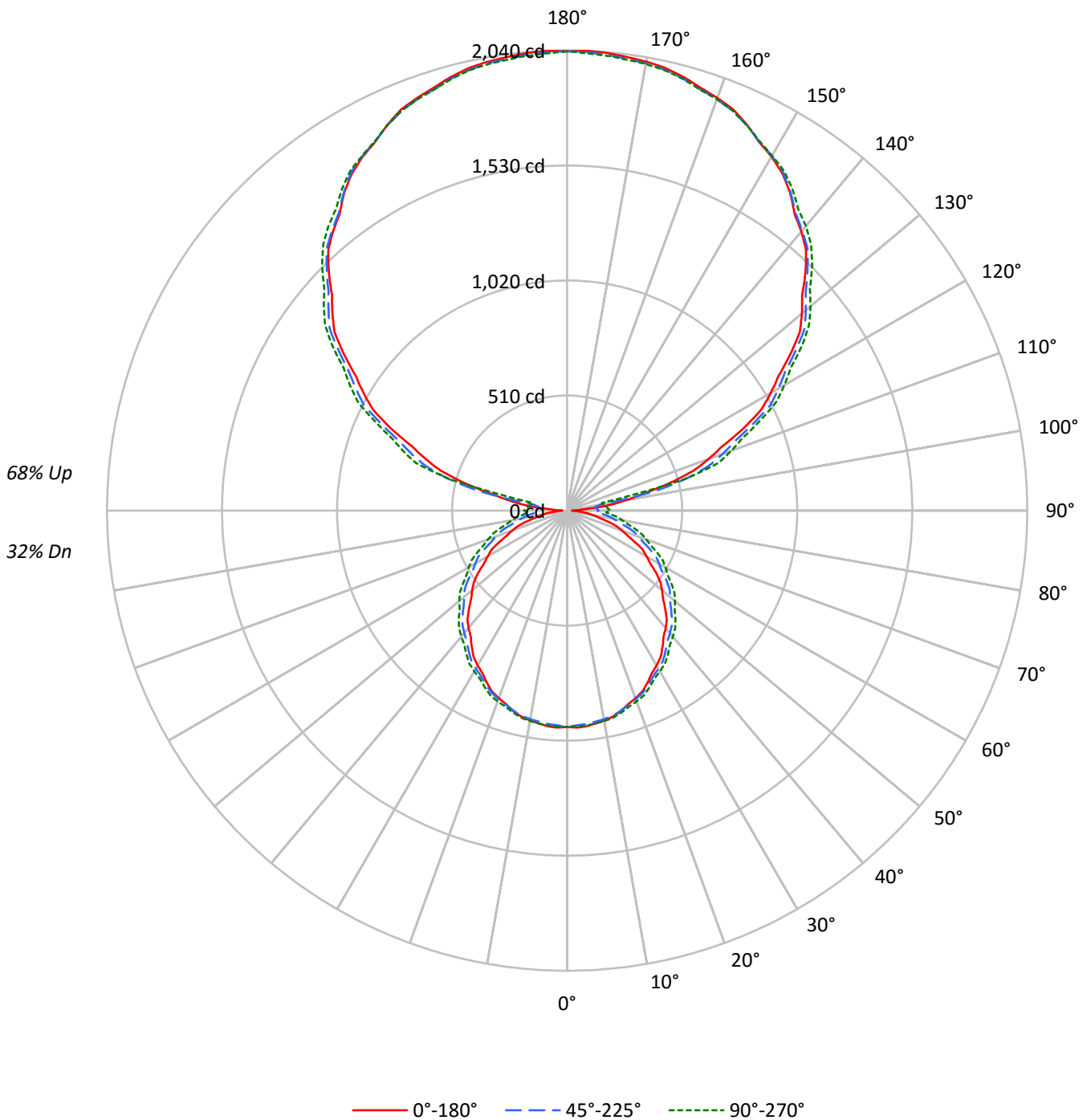
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332801-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-D

**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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39
1	93	89	85	81	83	80	76	73	63	61	59	48	46	45	34	33	32
2	84	77	71	65	76	69	64	59	55	51	48	41	39	37	29	28	26
3	77	67	60	54	69	61	54	49	48	44	40	36	33	31	26	24	22
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	21	19
5	64	53	45	39	57	47	41	35	38	33	29	29	25	22	20	18	16
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14
7	54	42	34	29	49	38	31	26	31	25	22	23	20	17	17	14	12
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11
9	47	35	27	22	42	31	25	21	25	20	17	20	16	13	14	12	10
10	44	32	25	20	39	29	23	18	23	18	15	18	15	12	13	11	9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7744	7744	7744
5°	7768	7569	7589
10°	7720	7444	7439
15°	7651	7301	7261
20°	7547	7143	7089
25°	7429	6965	6898
30°	7302	6789	6703
35°	7158	6609	6532
40°	7042	6436	6353
45°	6871	6278	6200
50°	6727	6095	6039
55°	6577	5924	5849
60°	6344	5704	5676
65°	6089	5468	5463
70°	5778	5200	5215
75°	5348	4904	4991
80°	4865	4620	4771
85°	4264	4369	4644



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.8	0.9
10°-20°	260.3	2.7
20°-30°	393.5	4.1
30°-40°	476.1	5.0
40°-50°	503.4	5.3
50°-60°	473.7	4.9
60°-70°	393.1	4.1
70°-80°	276.1	2.9
80°-90°	162.0	1.7
90°-100°	162.3	1.7
100°-110°	512.6	5.4
110°-120°	895.5	9.4
120°-130°	1104.3	11.5
130°-140°	1164.9	12.2
140°-150°	1081.1	11.3
150°-160°	870.0	9.1
160°-170°	561.1	5.9
170°-180°	193.4	2.0
0°-30°	744.6	7.8
0°-40°	1220.8	12.8
0°-60°	2197.9	23.0
0°-90°	3029.0	31.6
90°-120°	1570.4	16.4
90°-150°	4920.6	51.4
90°-180°	6545.0	68.4
0°-180°	9574.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	959	959	959	959	959	
5°	960	957	950	958	957	91
15°	921	921	918	928	927	259
25°	842	848	852	863	865	388
35°	737	750	760	775	779	461
45°	614	635	655	673	679	475
55°	481	504	536	557	564	429
65°	333	368	404	430	439	330
75°	185	225	270	299	309	196
85°	57	102	150	181	193	61
90°	22	81	140	179	192	15
95°	98	85	127	164	176	119
105°	468	500	546	582	540	490
115°	862	878	909	935	944	849
125°	1207	1213	1236	1260	1269	1078
135°	1495	1494	1507	1526	1536	1151
145°	1722	1725	1726	1733	1741	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°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	962.7	962.1	961.5	961.0	960.4	959.4	957.8	956.2	954.7	953.2	954.5
5°	960.3	959.6	958.9	958.2	957.5	956.2	954.5	952.9	951.2	949.6	951.5
7.5°	952.1	951.7	951.3	950.9	950.4	949.5	948.2	946.7	945.3	944.0	946.1
10°	945.2	945.0	944.8	944.5	944.3	943.6	942.4	941.2	940.0	938.8	941.0
12.5°	935.8	935.7	935.7	935.6	935.6	935.2	934.4	933.5	932.7	931.9	933.9
15°	920.6	920.8	921.0	921.3	921.5	921.3	920.6	919.9	919.1	918.4	920.6
17.5°	899.7	900.4	901.1	901.9	902.6	902.8	902.7	902.6	902.4	902.3	904.5
20°	885.1	885.9	886.6	887.3	888.0	888.5	888.7	888.9	889.2	889.4	891.8
22.5°	868.8	869.7	870.6	871.5	872.4	873.1	873.5	873.9	874.3	874.8	877.2
25°	842.1	843.5	845.1	846.5	847.9	849.0	849.7	850.4	851.1	851.8	854.4
27.5°	812.5	814.6	816.7	818.8	820.9	822.5	823.6	824.7	825.8	826.9	829.3
30°	792.7	794.7	796.6	798.5	800.4	802.1	803.9	805.5	807.2	808.8	811.4
32.5°	771.2	773.6	775.9	778.1	780.4	782.4	784.4	786.2	788.1	789.9	792.9
35°	736.9	739.7	742.7	745.5	748.3	750.9	753.4	755.8	758.1	760.5	763.9
37.5°	702.3	705.6	708.9	712.2	715.5	718.6	721.5	724.5	727.5	730.4	733.9
40°	679.9	683.1	686.1	689.2	692.4	695.6	698.9	702.3	705.6	708.9	712.6
42.5°	654.2	657.6	661.2	664.6	668.1	671.8	675.7	679.6	683.6	687.4	691.5
45°	614.4	618.9	623.5	628.0	632.6	637.1	641.7	646.2	650.7	655.2	659.3
47.5°	576.4	581.1	585.7	590.5	595.1	600.1	605.3	610.6	615.8	621.1	625.3
50°	548.9	554.1	559.4	564.6	569.9	575.1	580.4	585.6	590.9	596.1	601.0
52.5°	521.4	526.6	531.9	537.1	542.4	548.1	554.0	560.1	566.1	572.1	576.8
55°	481.2	486.3	491.3	496.2	501.3	507.4	514.5	521.7	528.9	536.0	540.8
57.5°	436.4	442.5	448.8	454.9	461.1	467.8	474.9	482.0	489.2	496.2	501.9
60°	407.1	413.3	419.5	425.8	431.9	439.0	446.9	454.7	462.6	470.5	475.9
62.5°	378.7	385.6	392.3	399.1	405.9	413.2	421.1	429.0	436.9	444.7	450.2
65°	333.0	340.6	348.3	355.9	363.6	371.4	379.5	387.7	395.8	403.8	409.8
67.5°	288.9	297.1	305.2	313.3	321.4	329.8	338.5	347.2	355.9	364.6	370.6
70°	258.8	267.0	275.1	283.3	291.3	299.9	309.0	318.1	327.1	336.2	342.6
72.5°	229.6	237.9	246.3	254.6	262.9	271.9	281.6	291.1	300.8	310.4	316.7
75°	184.8	193.6	202.4	211.3	220.0	229.5	239.5	249.5	259.6	269.6	276.3
77.5°	142.9	152.2	161.6	171.0	180.3	190.3	200.8	211.3	221.8	232.3	239.0
80°	117.0	126.6	136.1	145.7	155.3	165.3	175.8	186.3	196.8	207.3	214.5
82.5°	91.3	101.2	111.2	121.1	131.0	141.3	151.8	162.3	172.8	183.3	190.6
85°	57.0	67.0	77.0	87.1	97.0	107.4	118.2	128.9	139.7	150.4	157.5
87.5°	32.7	43.2	53.7	64.1	74.6	85.3	96.3	107.3	118.4	129.4	136.7
90°	21.7	35.0	48.3	61.6	74.8	88.0	100.9	113.9	126.8	139.9	148.8
92.5°	35.5	44.3	53.1	61.9	70.7	81.6	94.5	107.6	120.5	133.5	142.2
95°	97.8	94.1	90.5	86.8	83.2	86.4	96.5	106.7	116.8	126.9	135.4
97.5°	190.6	204.5	218.4	232.4	246.4	239.3	211.3	183.2	155.1	127.0	133.5
100°	261.6	273.9	286.2	298.5	310.7	298.2	260.8	223.4	186.0	148.7	149.4
102.5°	341.9	351.9	361.8	371.7	381.6	388.1	391.1	394.2	397.2	400.2	344.4
105°	468.1	474.8	481.7	488.5	495.2	503.9	514.4	525.0	535.5	546.0	555.0
107.5°	586.9	591.9	596.8	601.8	606.6	614.5	625.1	635.8	646.4	657.1	664.4
110°	666.5	670.9	675.2	679.5	683.9	691.3	701.7	712.1	722.5	732.9	739.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	743.6	748.4	753.2	758.0	762.8	769.6	778.5	787.5	796.4	805.3	810.4
115°	862.3	865.5	868.7	871.8	874.9	880.2	887.5	894.8	902.1	909.4	915.3
117.5°	970.3	972.9	975.5	978.2	980.8	986.0	993.9	1001.8	1009.7	1017.4	1022.3
120°	1042.5	1044.5	1046.6	1048.6	1050.8	1055.1	1061.7	1068.2	1074.8	1081.5	1086.9
122.5°	1110.8	1111.7	1112.6	1113.6	1114.5	1118.5	1125.5	1132.6	1139.5	1146.6	1151.8
125°	1207.4	1208.5	1209.6	1210.7	1211.8	1215.1	1220.3	1225.7	1230.9	1236.3	1241.7
127.5°	1299.8	1299.9	1300.0	1300.1	1300.2	1303.3	1309.4	1315.6	1321.7	1327.9	1331.9
130°	1358.6	1358.7	1358.8	1358.9	1359.0	1361.5	1366.3	1371.2	1375.9	1380.8	1385.4
132.5°	1413.4	1413.8	1414.2	1414.5	1414.9	1417.2	1421.6	1425.9	1430.3	1434.6	1439.1
135°	1494.6	1494.3	1493.9	1493.6	1493.3	1494.6	1497.6	1500.7	1503.7	1506.7	1511.2
137.5°	1567.4	1567.3	1567.2	1567.1	1567.0	1568.1	1570.3	1572.7	1575.0	1577.3	1581.5
140°	1614.9	1615.4	1615.8	1616.2	1616.7	1617.3	1618.3	1619.2	1620.1	1621.0	1625.2
142.5°	1656.7	1657.9	1659.0	1660.2	1661.4	1662.1	1662.3	1662.6	1662.8	1663.1	1666.6
145°	1721.9	1722.7	1723.5	1724.3	1725.1	1725.5	1725.5	1725.5	1725.5	1725.5	1727.3
147.5°	1774.0	1775.7	1777.4	1779.0	1780.7	1781.3	1781.0	1780.7	1780.3	1780.0	1780.5
150°	1811.8	1812.9	1814.0	1815.1	1816.2	1816.6	1816.3	1816.0	1815.6	1815.3	1815.3
152.5°	1842.6	1843.7	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°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	955.8	957.3	958.6	959.2	959.0	958.8	958.6	958.4
5°	953.4	955.3	957.2	958.1	957.8	957.6	957.4	957.0
7.5°	948.3	950.4	952.6	953.5	953.3	953.0	952.8	952.6
10°	943.1	945.2	947.5	948.4	948.2	947.9	947.7	947.5
12.5°	935.8	937.9	939.8	940.7	940.7	940.6	940.6	940.5
15°	922.7	924.8	927.0	928.0	927.8	927.5	927.3	927.0
17.5°	906.7	908.9	911.1	912.1	911.9	911.7	911.5	911.3
20°	894.1	896.6	899.0	900.2	900.2	900.2	900.2	900.2
22.5°	879.6	881.9	884.3	885.8	886.2	886.5	886.9	887.3
25°	857.1	859.7	862.3	863.7	863.9	864.2	864.4	864.7
27.5°	831.7	834.1	836.7	838.0	838.3	838.6	838.9	839.1
30°	814.1	816.7	819.3	820.9	821.4	821.8	822.3	822.8
32.5°	796.0	799.0	801.9	803.8	804.2	804.7	805.2	805.7
35°	767.2	770.5	773.9	775.9	776.6	777.3	778.1	778.8
37.5°	737.2	740.6	744.0	746.1	746.8	747.6	748.3	749.1
40°	716.1	719.7	723.3	725.5	726.5	727.4	728.4	729.3
42.5°	695.4	699.3	703.3	705.7	706.4	707.2	708.0	708.7
45°	663.4	667.4	671.5	674.1	675.3	676.5	677.7	678.8
47.5°	629.4	633.7	637.9	640.7	642.2	643.6	645.0	646.4
50°	605.7	610.5	615.2	618.3	619.8	621.3	622.7	624.1
52.5°	581.7	586.4	591.2	594.3	595.7	597.1	598.5	600.1
55°	545.5	550.4	555.1	558.3	559.7	561.1	562.5	563.9
57.5°	507.7	513.3	519.0	522.5	523.8	525.1	526.5	527.9
60°	481.5	487.0	492.4	496.1	498.1	500.0	501.9	503.8
62.5°	455.7	461.2	466.7	470.4	472.3	474.2	476.1	478.0
65°	415.9	421.8	427.8	431.7	433.6	435.6	437.4	439.3
67.5°	376.7	382.7	388.8	392.7	394.7	396.5	398.4	400.2
70°	349.1	355.6	362.0	366.1	367.7	369.4	371.0	372.7
72.5°	323.0	329.2	335.5	339.5	341.3	343.3	345.1	347.0
75°	283.0	289.6	296.4	300.7	303.0	305.1	307.2	309.3
77.5°	245.8	252.6	259.3	263.9	266.2	268.4	270.7	273.1
80°	221.7	228.8	236.0	240.4	242.4	244.3	246.2	248.1
82.5°	197.9	205.3	212.7	217.4	219.4	221.6	223.7	225.8
85°	164.7	171.9	179.0	183.8	186.2	188.5	191.0	193.4
87.5°	144.0	151.4	158.6	163.5	165.7	167.9	170.2	172.4
90°	157.7	166.7	175.6	181.5	184.0	186.6	189.1	191.8
92.5°	151.0	159.8	168.5	173.9	175.9	178.0	180.1	182.1
95°	143.9	152.4	160.9	166.3	168.8	171.3	173.8	176.3
97.5°	139.9	146.3	152.8	157.2	159.7	162.0	164.4	166.8
100°	150.1	150.7	151.4	152.8	154.8	156.7	158.8	160.8
102.5°	288.6	232.8	176.9	150.0	151.9	153.9	155.8	157.7
105°	564.1	573.1	582.1	581.5	571.2	560.9	550.7	540.4
107.5°	671.8	679.1	686.5	691.7	694.7	697.7	700.7	703.8
110°	745.2	751.3	757.5	762.0	765.0	767.9	770.8	773.8





TEST NUMBER: P332801-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	815.7	820.8	826.0	830.1	833.3	836.5	839.7	842.9
115°	921.3	927.2	933.1	937.0	938.6	940.3	941.9	943.6
117.5°	1027.1	1032.0	1036.8	1040.1	1041.9	1043.7	1045.4	1047.2
120°	1092.4	1097.7	1103.2	1106.6	1107.8	1109.0	1110.2	1111.5
122.5°	1156.9	1162.2	1167.3	1170.4	1171.4	1172.5	1173.6	1174.6
125°	1247.3	1252.8	1258.4	1262.1	1263.8	1265.7	1267.4	1269.2
127.5°	1336.1	1340.1	1344.2	1347.0	1348.3	1349.7	1351.0	1352.4
130°	1390.1	1394.7	1399.4	1402.4	1403.8	1405.2	1406.7	1408.2
132.5°	1443.5	1447.9	1452.4	1455.2	1456.4	1457.5	1458.8	1459.9
135°	1515.7	1520.1	1524.7	1528.0	1530.0	1532.2	1534.3	1536.4
137.5°	1585.8	1589.9	1594.2	1596.8	1597.8	1598.8	1599.8	1600.7
140°	1629.2	1633.4	1637.5	1640.3	1641.8	1643.4	1644.9	1646.5
142.5°	1670.1	1673.5	1677.0	1679.3	1680.3	1681.4	1682.5	1683.5
145°	1729.0	1730.8	1732.5	1734.2	1735.9	1737.5	1739.2	1740.8
147.5°	1780.9	1781.4	1781.8	1782.6	1783.7	1784.8	1785.9	1787.1
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)