

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

Luminaire Tested: **S124DIW-S795D1560U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332801
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-S795D1560U835-4F0-1E-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: 9480.6 lumens
Efficiency: N/A
Efficacy: 139.2 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

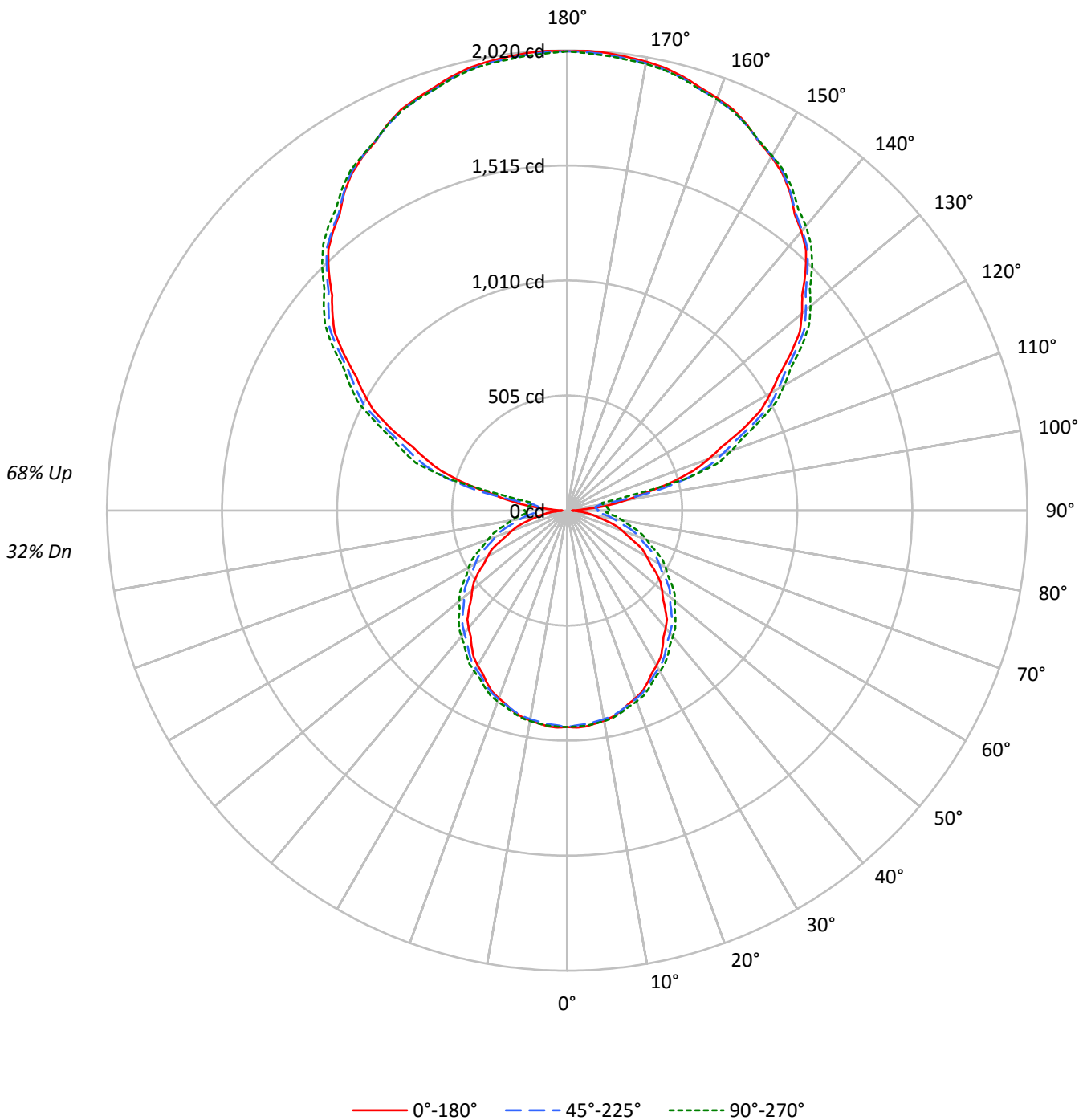
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7668	7668	7668
5°	7692	7494	7516
10°	7645	7371	7366
15°	7577	7230	7190
20°	7473	7073	7019
25°	7357	6898	6831
30°	7231	6723	6637
35°	7088	6544	6468
40°	6974	6374	6291
45°	6804	6217	6140
50°	6661	6036	5980
55°	6513	5866	5792
60°	6282	5649	5621
65°	6029	5415	5409
70°	5722	5149	5165
75°	5296	4857	4943
80°	4819	4575	4724
85°	4219	4325	4598



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.9	0.9
10°-20°	257.7	2.7
20°-30°	389.7	4.1
30°-40°	471.5	5.0
40°-50°	498.5	5.3
50°-60°	469.1	4.9
60°-70°	389.2	4.1
70°-80°	273.4	2.9
80°-90°	160.4	1.7
90°-100°	160.7	1.7
100°-110°	507.6	5.4
110°-120°	886.7	9.4
120°-130°	1093.5	11.5
130°-140°	1153.5	12.2
140°-150°	1070.5	11.3
150°-160°	861.5	9.1
160°-170°	555.6	5.9
170°-180°	191.5	2.0
0°-30°	737.4	7.8
0°-40°	1208.8	12.8
0°-60°	2176.4	23.0
0°-90°	2999.4	31.6
90°-120°	1555.1	16.4
90°-150°	4872.6	51.4
90°-180°	6481.0	68.4
0°-180°	9480.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	950	950	950	950	950	
5°	951	948	940	948	948	90
15°	912	912	909	918	918	257
25°	834	840	844	855	856	384
35°	730	742	753	767	771	457
45°	608	629	649	666	672	470
55°	476	499	531	551	558	424
65°	330	364	400	426	435	327
75°	183	223	267	296	306	195
85°	56	101	149	180	192	60
90°	22	81	138	177	190	15
95°	97	84	126	162	175	118
105°	464	495	541	576	535	486
115°	854	869	900	926	934	840
125°	1196	1202	1224	1248	1257	1067
135°	1480	1479	1492	1511	1521	1140
145°	1705	1708	1709	1716	1724	1065
155°	1868	1870	1865	1871	1867	861
165°	1971	1964	1964	1974	1962	557
175°	2016	2008	2009	2021	2004	192
180°	2016	2016	2016	2016	2016	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9
2.5°	953.3	952.7	952.1	951.6	951.0	950.0	948.4	946.9	945.4	943.9	945.2
5°	950.9	950.2	949.5	948.8	948.1	946.9	945.2	943.6	941.9	940.3	942.2
7.5°	942.8	942.4	942.0	941.6	941.1	940.2	938.9	937.5	936.1	934.8	936.9
10°	936.0	935.8	935.6	935.3	935.1	934.4	933.2	932.0	930.8	929.6	931.8
12.5°	926.7	926.6	926.6	926.5	926.5	926.1	925.3	924.4	923.6	922.8	924.8
15°	911.6	911.8	912.0	912.3	912.5	912.3	911.6	910.9	910.1	909.4	911.6
17.5°	890.9	891.6	892.3	893.1	893.8	894.0	893.9	893.8	893.6	893.5	895.7
20°	876.5	877.2	877.9	878.6	879.3	879.8	880.0	880.2	880.5	880.7	883.1
22.5°	860.3	861.2	862.1	863.0	863.9	864.6	865.0	865.4	865.8	866.3	868.6
25°	833.9	835.3	836.8	838.2	839.6	840.7	841.4	842.1	842.8	843.5	846.1
27.5°	804.6	806.6	808.7	810.8	812.9	814.5	815.6	816.6	817.7	818.8	821.2
30°	785.0	786.9	788.8	790.7	792.6	794.3	796.0	797.6	799.3	800.9	803.5
32.5°	763.7	766.0	768.3	770.5	772.8	774.8	776.7	778.5	780.4	782.2	785.2
35°	729.7	732.5	735.4	738.2	741.0	743.6	746.0	748.4	750.7	753.1	756.4
37.5°	695.4	698.7	702.0	705.2	708.5	711.6	714.5	717.4	720.4	723.3	726.7
40°	673.3	676.4	679.4	682.5	685.6	688.8	692.1	695.4	698.7	702.0	705.6
42.5°	647.8	651.2	654.7	658.1	661.6	665.2	669.1	673.0	676.9	680.7	684.7
45°	608.4	612.9	617.4	621.9	626.4	630.9	635.4	639.9	644.3	648.8	652.9
47.5°	570.8	575.4	580.0	584.7	589.3	594.2	599.4	604.6	609.8	615.0	619.2
50°	543.5	548.7	553.9	559.1	564.3	569.5	574.7	579.9	585.1	590.3	595.1
52.5°	516.3	521.5	526.7	531.9	537.1	542.7	548.6	554.6	560.6	566.5	571.2
55°	476.5	481.5	486.5	491.4	496.4	502.4	509.5	516.6	523.7	530.8	535.5
57.5°	432.1	438.2	444.4	450.5	456.6	463.2	470.3	477.3	484.4	491.4	497.0
60°	403.1	409.3	415.4	421.6	427.7	434.7	442.5	450.3	458.1	465.9	471.3
62.5°	375.0	381.8	388.5	395.2	401.9	409.2	417.0	424.8	432.6	440.4	445.8
65°	329.7	337.3	344.9	352.4	360.0	367.8	375.8	383.9	391.9	399.9	405.8
67.5°	286.1	294.2	302.2	310.2	318.3	326.6	335.2	343.8	352.4	361.0	367.0
70°	256.3	264.4	272.4	280.5	288.5	297.0	306.0	315.0	323.9	332.9	339.3
72.5°	227.4	235.6	243.9	252.1	260.3	269.2	278.8	288.3	297.9	307.4	313.6
75°	183.0	191.7	200.4	209.2	217.9	227.3	237.2	247.1	257.1	267.0	273.6
77.5°	141.5	150.7	160.0	169.3	178.5	188.4	198.8	209.2	219.6	230.0	236.7
80°	115.9	125.4	134.8	144.3	153.8	163.7	174.1	184.5	194.9	205.3	212.4
82.5°	90.4	100.2	110.1	119.9	129.7	139.9	150.3	160.7	171.1	181.5	188.7
85°	56.4	66.3	76.2	86.2	96.1	106.4	117.0	127.6	138.3	148.9	156.0
87.5°	32.4	42.8	53.2	63.5	73.9	84.5	95.4	106.3	117.2	128.1	135.4
90°	21.5	34.7	47.8	61.0	74.1	87.1	99.9	112.8	125.6	138.5	147.3
92.5°	35.2	43.9	52.6	61.3	70.0	80.8	93.6	106.5	119.3	132.2	140.8
95°	96.8	93.2	89.6	86.0	82.4	85.6	95.6	105.7	115.7	125.7	134.1
97.5°	188.7	202.5	216.3	230.1	244.0	237.0	209.2	181.4	153.6	125.8	132.2
100°	259.0	271.2	283.4	295.6	307.7	295.3	258.3	221.2	184.2	147.2	147.9
102.5°	338.6	348.5	358.3	368.1	377.9	384.3	387.3	390.3	393.3	396.3	341.0
105°	463.5	470.2	477.0	483.7	490.4	499.0	509.4	519.9	530.3	540.7	549.6
107.5°	581.2	586.1	591.0	595.9	600.7	608.5	619.0	629.6	640.1	650.7	657.9
110°	660.0	664.3	668.6	672.9	677.2	684.5	694.8	705.1	715.4	725.7	731.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	736.3	741.1	745.8	750.6	755.3	762.1	770.9	779.8	788.6	797.4	802.5
115°	853.9	857.0	860.2	863.3	866.4	871.6	878.8	886.1	893.3	900.5	906.4
117.5°	960.8	963.4	966.0	968.6	971.2	976.4	984.2	992.0	999.8	1007.5	1012.3
120°	1032.3	1034.3	1036.4	1038.4	1040.5	1044.8	1051.3	1057.8	1064.3	1070.9	1076.3
122.5°	1099.9	1100.8	1101.7	1102.7	1103.6	1107.6	1114.5	1121.5	1128.4	1135.4	1140.5
125°	1195.6	1196.7	1197.8	1198.9	1200.0	1203.2	1208.4	1213.7	1218.9	1224.2	1229.6
127.5°	1287.1	1287.2	1287.3	1287.4	1287.5	1290.6	1296.6	1302.7	1308.8	1314.9	1318.9
130°	1345.3	1345.4	1345.5	1345.6	1345.7	1348.2	1353.0	1357.8	1362.5	1367.3	1371.9
132.5°	1399.6	1400.0	1400.4	1400.7	1401.1	1403.4	1407.7	1412.0	1416.3	1420.6	1425.0
135°	1480.0	1479.7	1479.3	1479.0	1478.7	1480.0	1483.0	1486.0	1489.0	1492.0	1496.4
137.5°	1552.1	1552.0	1551.9	1551.8	1551.7	1552.8	1555.0	1557.3	1559.6	1561.9	1566.1
140°	1599.1	1599.6	1600.0	1600.4	1600.9	1601.5	1602.5	1603.4	1604.3	1605.2	1609.3
142.5°	1640.5	1641.7	1642.8	1644.0	1645.2	1645.9	1646.1	1646.4	1646.6	1646.9	1650.3
145°	1705.1	1705.9	1706.7	1707.5	1708.2	1708.6	1708.6	1708.6	1708.6	1708.6	1710.4
147.5°	1756.7	1758.4	1760.0	1761.6	1763.3	1763.9	1763.6	1763.3	1762.9	1762.6	1763.1
150°	1794.1	1795.2	1796.3	1797.4	1798.5	1798.9	1798.6	1798.3	1797.9	1797.6	1797.6
152.5°	1824.6	1825.7	1826.7	1827.7	1828.7	1829.0	1828.3	1827.7	1827.1	1826.5	1827.1
155°	1868.5	1868.8	1869.1	1869.5	1869.8	1869.5	1868.5	1867.5	1866.5	1865.4	1866.8
157.5°	1905.6	1905.4	1905.2	1905.0	1904.8	1904.1	1902.9	1901.8	1900.7	1899.5	1901.3
160°	1927.3	1926.3	1925.3	1924.3	1923.3	1922.6	1922.2	1921.9	1921.6	1921.2	1923.3
162.5°	1946.6	1945.3	1944.0	1942.8	1941.5	1940.7	1940.3	1940.0	1939.7	1939.3	1941.3
165°	1971.0	1969.3	1967.7	1966.0	1964.3	1963.5	1963.5	1963.5	1963.5	1963.5	1966.1
167.5°	1990.3	1988.6	1986.8	1985.1	1983.3	1982.4	1982.2	1982.0	1981.8	1981.6	1984.5
170°	2001.2	1999.2	1997.1	1995.1	1993.1	1992.3	1992.6	1993.0	1993.3	1993.6	1996.3
172.5°	2008.4	2006.4	2004.4	2002.4	2000.4	1999.5	1999.9	2000.2	2000.5	2000.9	2003.5
175°	2016.2	2014.2	2012.2	2010.2	2008.2	2007.4	2007.7	2008.0	2008.4	2008.7	2011.7
177.5°	2019.9	2018.0	2016.1	2014.2	2012.4	2011.7	2012.2	2012.8	2013.3	2013.8	2016.0
180°	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	949.9	949.9	949.9	949.9	949.9	949.9	949.9	949.9
2.5°	946.5	947.9	949.2	949.8	949.6	949.4	949.2	949.0
5°	944.1	946.0	947.8	948.7	948.4	948.2	948.0	947.7
7.5°	939.0	941.1	943.3	944.2	944.0	943.7	943.5	943.3
10°	933.9	936.0	938.2	939.1	938.9	938.6	938.4	938.2
12.5°	926.7	928.7	930.6	931.5	931.5	931.4	931.4	931.3
15°	913.7	915.8	917.9	918.9	918.7	918.4	918.2	917.9
17.5°	897.8	900.0	902.2	903.2	903.0	902.8	902.6	902.4
20°	885.4	887.8	890.2	891.4	891.4	891.4	891.4	891.4
22.5°	871.0	873.3	875.7	877.1	877.5	877.8	878.2	878.6
25°	848.7	851.3	853.9	855.3	855.5	855.8	856.0	856.3
27.5°	823.6	826.0	828.5	829.8	830.1	830.4	830.7	830.9
30°	806.1	808.7	811.3	812.9	813.4	813.8	814.3	814.8
32.5°	788.2	791.2	794.1	795.9	796.3	796.8	797.3	797.8
35°	759.7	763.0	766.3	768.3	769.0	769.7	770.5	771.2
37.5°	730.0	733.4	736.7	738.8	739.5	740.3	741.0	741.8
40°	709.1	712.7	716.2	718.4	719.4	720.3	721.3	722.2
42.5°	688.6	692.5	696.4	698.8	699.5	700.3	701.1	701.8
45°	656.9	660.9	664.9	667.5	668.7	669.9	671.1	672.2
47.5°	623.3	627.5	631.7	634.4	635.9	637.3	638.7	640.1
50°	599.8	604.5	609.2	612.3	613.7	615.2	616.6	618.0
52.5°	576.0	580.7	585.4	588.5	589.9	591.3	592.7	594.2
55°	540.2	545.0	549.7	552.8	554.2	555.6	557.0	558.4
57.5°	502.7	508.3	513.9	517.4	518.7	520.0	521.4	522.7
60°	476.8	482.2	487.6	491.3	493.2	495.1	497.0	498.9
62.5°	451.2	456.7	462.1	465.8	467.7	469.6	471.4	473.3
65°	411.8	417.7	423.6	427.5	429.4	431.3	433.1	435.0
67.5°	373.0	379.0	385.0	388.9	390.8	392.6	394.5	396.3
70°	345.7	352.1	358.5	362.5	364.1	365.8	367.4	369.1
72.5°	319.8	326.0	332.2	336.2	338.0	339.9	341.7	343.6
75°	280.2	286.8	293.5	297.8	300.0	302.1	304.2	306.3
77.5°	243.4	250.1	256.8	261.3	263.6	265.8	268.1	270.4
80°	219.5	226.6	233.7	238.1	240.0	241.9	243.8	245.7
82.5°	196.0	203.3	210.6	215.3	217.3	219.4	221.5	223.6
85°	163.1	170.2	177.3	182.0	184.4	186.7	189.1	191.5
87.5°	142.6	149.9	157.1	161.9	164.1	166.3	168.5	170.7
90°	156.2	165.1	173.9	179.7	182.2	184.8	187.3	189.9
92.5°	149.5	158.2	166.9	172.2	174.2	176.3	178.3	180.3
95°	142.5	150.9	159.3	164.7	167.2	169.6	172.1	174.6
97.5°	138.5	144.9	151.3	155.7	158.1	160.4	162.8	165.2
100°	148.6	149.2	149.9	151.3	153.3	155.2	157.2	159.2
102.5°	285.8	230.5	175.2	148.5	150.4	152.4	154.3	156.2
105°	558.6	567.5	576.4	575.8	565.6	555.4	545.3	535.1
107.5°	665.2	672.5	679.8	684.9	687.9	690.9	693.9	696.9
110°	737.9	744.0	750.1	754.6	757.5	760.4	763.3	766.2



TEST NUMBER: P332801

CATALOG NUMBER: S124DIW-S795D1560U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	807.7	812.8	817.9	822.0	825.2	828.3	831.5	834.7
115°	912.3	918.1	924.0	927.8	929.4	931.1	932.7	934.4
117.5°	1017.1	1021.9	1026.7	1029.9	1031.7	1033.5	1035.2	1037.0
120°	1081.7	1087.0	1092.4	1095.8	1097.0	1098.2	1099.4	1100.6
122.5°	1145.6	1150.8	1155.9	1159.0	1160.0	1161.0	1162.1	1163.1
125°	1235.1	1240.6	1246.1	1249.8	1251.5	1253.3	1255.0	1256.8
127.5°	1323.0	1327.0	1331.1	1333.8	1335.1	1336.5	1337.8	1339.2
130°	1376.5	1381.1	1385.7	1388.7	1390.1	1391.5	1393.0	1394.4
132.5°	1429.4	1433.8	1438.2	1441.0	1442.2	1443.3	1444.5	1445.6
135°	1500.9	1505.3	1509.8	1513.1	1515.1	1517.2	1519.3	1521.4
137.5°	1570.3	1574.4	1578.6	1581.2	1582.2	1583.2	1584.2	1585.1
140°	1613.3	1617.4	1621.5	1624.3	1625.8	1627.3	1628.8	1630.4
142.5°	1653.8	1657.2	1660.6	1662.9	1663.9	1665.0	1666.1	1667.1
145°	1712.1	1713.9	1715.6	1717.3	1718.9	1720.5	1722.2	1723.8
147.5°	1763.5	1764.0	1764.4	1765.2	1766.3	1767.4	1768.5	1769.6
150°	1797.6	1797.6	1797.6	1797.8	1798.1	1798.4	1798.8	1799.1
152.5°	1827.6	1828.1	1828.7	1828.8	1828.6	1828.4	1828.2	1828.0
155°	1868.1	1869.5	1870.8	1871.0	1870.0	1869.0	1868.0	1867.0
157.5°	1903.0	1904.8	1906.5	1906.5	1904.8	1903.0	1901.3	1899.5
160°	1925.3	1927.3	1929.3	1929.3	1927.3	1925.3	1923.3	1921.2
162.5°	1943.4	1945.4	1947.4	1947.2	1945.0	1942.7	1940.4	1938.1
165°	1968.8	1971.5	1974.2	1974.0	1971.0	1968.0	1965.0	1962.0
167.5°	1987.5	1990.4	1993.4	1993.2	1989.8	1986.5	1983.1	1979.8
170°	1999.0	2001.7	2004.4	2004.0	2000.7	1997.3	1994.0	1990.6
172.5°	2006.2	2008.9	2011.6	2011.1	2007.5	2003.9	2000.3	1996.6
175°	2014.7	2017.8	2020.8	2020.3	2016.2	2012.2	2008.2	2004.2
177.5°	2018.1	2020.3	2022.4	2021.9	2018.7	2015.4	2012.2	2009.0
180°	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2

(END OF REPORT)