

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: P332846

Luminaire Tested: **S124DIW-S1195D770U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332846
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D770U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7779.2 lumens
Efficiency: N/A
Efficacy: 130.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

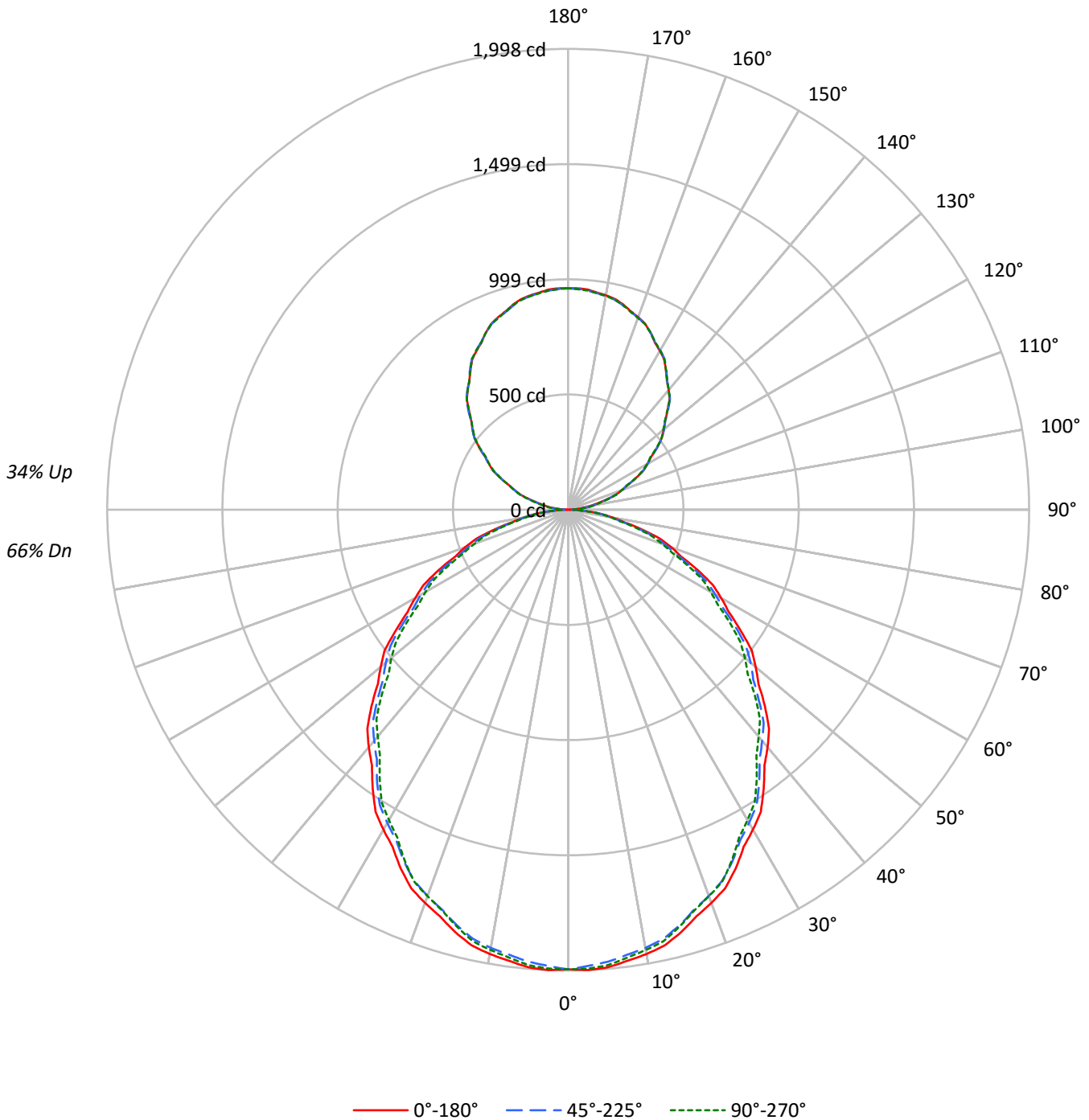
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66
1	101	97	93	89	95	91	88	85	81	78	76	71	69	67	62	61	60	55
2	92	85	78	73	86	80	74	69	71	66	63	63	59	56	55	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	48	49	45	43	39
4	77	66	58	51	72	62	55	49	56	50	45	49	45	41	43	40	37	34
5	71	59	50	44	66	56	48	42	50	44	39	44	39	35	39	35	32	29
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	31	28	26
7	60	48	40	34	57	45	38	33	41	35	30	37	31	28	33	28	25	23
8	56	44	36	30	53	41	34	29	37	31	27	33	28	25	30	26	23	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	23	20	18
10	49	37	29	24	46	35	28	23	32	26	22	29	24	20	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16088	16088	16088
5°	16136	15943	16058
10°	16035	15813	15891
15°	15841	15588	15628
20°	15584	15309	15323
25°	15291	14991	14949
30°	14930	14618	14483
35°	14557	14226	14038
40°	14169	13782	13529
45°	13764	13345	13089
50°	13317	12955	12554
55°	12833	12451	12047
60°	12350	11885	11525
65°	11805	11347	10890
70°	11195	10629	10213
75°	10259	9763	9513
80°	9131	8759	8536
85°	7984	7688	7540



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.7	2.4
10°-20°	528.8	6.8
20°-30°	778.3	10.0
30°-40°	904.8	11.6
40°-50°	904.8	11.6
50°-60°	791.5	10.2
60°-70°	587.8	7.6
70°-80°	333.9	4.3
80°-90°	99.2	1.3
90°-100°	63.3	0.8
100°-110°	187.5	2.4
110°-120°	318.2	4.1
120°-130°	419.6	5.4
130°-140°	471.3	6.1
140°-150°	463.1	6.0
150°-160°	389.5	5.0
160°-170°	259.1	3.3
170°-180°	90.7	1.2
0°-30°	1494.7	19.2
0°-40°	2399.5	30.8
0°-60°	4095.8	52.7
0°-90°	5116.7	65.8
90°-120°	569.0	7.3
90°-150°	1923.1	24.7
90°-180°	2662.0	34.2
0°-180°	7779.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1993	1993	1993	1993	1993	
5°	1991	1984	1967	1984	1982	189
15°	1895	1888	1865	1874	1870	534
25°	1717	1705	1683	1684	1678	789
35°	1477	1465	1444	1433	1424	923
45°	1206	1194	1169	1152	1146	929
55°	912	906	885	866	856	816
65°	618	610	594	578	570	612
75°	329	321	313	307	305	350
85°	86	86	83	83	81	95
90°	2	10	16	21	22	7
95°	44	51	56	58	59	50
105°	173	174	177	179	181	183
115°	324	324	322	321	321	319
125°	471	471	470	469	468	420
135°	608	612	612	611	609	470
145°	738	741	742	741	739	462
155°	846	846	845	848	845	389
165°	921	919	917	921	919	260
175°	958	955	954	958	954	91
180°	960	960	960	960	960	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8
2.5°	1997.9	1997.1	1996.2	1995.4	1994.5	1992.5	1989.4	1986.3	1983.2	1980.1	1982.9
5°	1991.2	1989.8	1988.4	1987.0	1985.6	1982.9	1979.0	1975.1	1971.2	1967.3	1971.2
7.5°	1972.7	1971.3	1969.9	1968.4	1967.0	1964.2	1959.8	1955.5	1951.2	1946.8	1950.0
10°	1956.1	1954.7	1953.3	1951.8	1950.4	1947.4	1942.8	1938.2	1933.6	1929.0	1931.8
12.5°	1934.4	1933.0	1931.5	1930.1	1928.7	1925.5	1920.7	1915.8	1910.9	1906.0	1909.1
15°	1895.4	1894.0	1892.6	1891.2	1889.7	1886.4	1881.0	1875.7	1870.4	1865.1	1867.2
17.5°	1848.5	1846.7	1844.9	1843.2	1841.4	1838.0	1832.9	1827.9	1822.9	1817.8	1819.2
20°	1814.0	1812.2	1810.4	1808.7	1806.9	1803.3	1798.0	1792.7	1787.4	1782.0	1783.1
22.5°	1776.9	1774.6	1772.3	1769.9	1767.6	1763.7	1758.4	1753.1	1747.8	1742.4	1744.4
25°	1716.6	1714.1	1711.6	1709.1	1706.6	1702.9	1697.9	1693.0	1688.0	1683.0	1683.4
27.5°	1647.6	1645.0	1642.5	1639.9	1637.4	1633.8	1629.2	1624.6	1620.0	1615.3	1614.5
30°	1601.6	1598.8	1595.9	1593.1	1590.3	1586.5	1581.9	1577.3	1572.7	1568.1	1566.7
32.5°	1553.1	1550.5	1548.0	1545.4	1542.8	1539.1	1534.2	1529.3	1524.4	1519.5	1517.8
35°	1477.1	1474.6	1472.1	1469.6	1467.1	1463.4	1458.4	1453.5	1448.5	1443.5	1441.0
37.5°	1396.9	1394.6	1392.4	1390.1	1387.8	1384.0	1378.7	1373.4	1368.0	1362.7	1360.0
40°	1344.5	1341.7	1338.8	1336.0	1333.2	1329.1	1323.8	1318.4	1313.1	1307.8	1304.2
42.5°	1288.3	1286.6	1284.9	1283.2	1281.5	1277.7	1271.8	1265.9	1260.0	1254.1	1250.0
45°	1205.6	1203.1	1200.6	1198.1	1195.7	1191.6	1185.9	1180.2	1174.5	1168.9	1165.0
47.5°	1119.0	1117.3	1115.6	1113.9	1112.2	1108.8	1103.5	1098.3	1093.0	1087.8	1083.4
50°	1060.3	1058.9	1057.4	1056.0	1054.6	1051.4	1046.4	1041.5	1036.5	1031.5	1026.6
52.5°	1002.8	1001.1	999.4	997.7	996.0	992.5	987.3	982.0	976.8	971.5	967.1
55°	911.8	910.7	909.7	908.6	907.5	904.5	899.5	894.6	889.6	884.6	880.4
57.5°	824.9	823.7	822.5	821.3	820.1	817.0	812.1	807.2	802.3	797.4	793.4
60°	764.9	763.1	761.3	759.6	757.8	754.6	750.0	745.4	740.7	736.1	732.9
62.5°	706.1	704.6	703.1	701.6	700.2	697.0	692.1	687.2	682.3	677.4	674.5
65°	618.0	616.2	614.4	612.6	610.9	608.2	604.7	601.1	597.6	594.0	590.5
67.5°	529.2	527.6	525.9	524.3	522.7	520.1	516.7	513.3	509.9	506.5	503.1
70°	474.3	471.8	469.3	466.8	464.3	461.7	458.8	456.0	453.1	450.3	447.5
72.5°	415.5	413.0	410.5	408.0	405.6	403.2	400.9	398.6	396.4	394.1	391.8
75°	328.9	327.2	325.4	323.6	321.8	320.1	318.3	316.5	314.8	313.0	311.6
77.5°	246.2	245.4	244.7	243.9	243.1	241.9	240.4	238.8	237.3	235.7	235.3
80°	196.4	195.3	194.3	193.2	192.2	191.3	190.6	189.8	189.1	188.4	187.7
82.5°	147.9	147.4	146.9	146.4	145.9	145.6	145.4	145.3	145.1	145.0	144.6
85°	86.2	86.2	86.2	86.2	86.2	85.9	85.2	84.5	83.7	83.0	83.0
87.5°	33.7	33.7	33.8	33.9	34.0	34.0	34.0	34.0	33.9	33.9	34.1
90°	2.2	4.0	5.9	7.7	9.5	11.1	12.4	13.7	15.0	16.3	17.3
92.5°	15.9	18.0	20.0	22.1	24.2	25.7	26.6	27.5	28.5	29.4	30.0
95°	44.5	46.0	47.5	49.0	50.5	51.8	52.9	54.1	55.3	56.4	56.9
97.5°	77.8	79.0	80.2	81.3	82.5	83.8	85.2	86.5	87.9	89.2	89.8
100°	103.9	104.6	105.2	105.9	106.5	107.6	109.1	110.6	112.1	113.6	113.9
102.5°	131.2	131.5	131.7	132.0	132.3	133.1	134.4	135.8	137.1	138.5	139.0
105°	172.9	173.1	173.3	173.4	173.6	174.0	174.7	175.3	176.0	176.6	177.1
107.5°	216.7	216.9	217.1	217.3	217.5	217.7	217.8	217.9	218.0	218.1	218.5
110°	246.4	246.7	247.1	247.4	247.7	247.8	247.6	247.5	247.3	247.1	246.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	277.3	277.3	277.4	277.5	277.5	277.4	277.1	276.8	276.5	276.2	276.2
115°	323.6	323.6	323.6	323.6	323.6	323.4	323.1	322.8	322.4	322.1	321.9
117.5°	367.2	367.4	367.5	367.6	367.8	367.7	367.5	367.3	367.0	366.8	366.2
120°	396.3	397.0	397.6	398.3	399.0	399.0	398.6	398.1	397.6	397.1	396.2
122.5°	426.6	426.9	427.1	427.4	427.7	427.7	427.5	427.2	427.0	426.8	426.2
125°	471.3	471.3	471.3	471.3	471.3	471.2	471.0	470.9	470.7	470.5	470.2
127.5°	511.8	512.3	512.8	513.3	513.8	513.9	513.6	513.4	513.1	512.9	512.5
130°	540.3	540.8	541.3	541.8	542.3	542.5	542.5	542.5	542.5	542.5	542.2
132.5°	569.4	569.8	570.1	570.5	570.9	571.0	570.8	570.7	570.6	570.4	570.1
135°	607.9	608.8	609.8	610.8	611.8	612.3	612.3	612.3	612.3	612.3	612.0
137.5°	649.7	650.2	650.6	651.1	651.6	651.9	652.2	652.4	652.7	653.0	652.5
140°	677.6	677.9	678.3	678.6	678.9	679.1	679.1	679.1	679.1	679.1	678.9
142.5°	703.1	703.5	703.8	704.1	704.5	704.6	704.4	704.3	704.2	704.0	704.0
145°	738.5	739.1	739.8	740.5	741.1	741.5	741.7	741.9	742.0	742.2	742.0
147.5°	773.5	774.3	775.1	775.9	776.7	777.0	776.9	776.7	776.6	776.5	776.3
150°	794.9	795.5	796.2	796.9	797.5	797.9	797.9	797.9	797.9	797.9	797.9
152.5°	815.1	815.5	815.9	816.3	816.7	816.9	817.0	817.2	817.3	817.4	817.8
155°	846.1	846.1	846.1	846.1	846.1	846.0	845.8	845.7	845.5	845.4	846.0
157.5°	872.2	871.9	871.6	871.3	871.0	870.9	870.8	870.8	870.8	870.7	871.2
160°	887.7	887.5	887.3	887.2	887.0	886.8	886.7	886.5	886.3	886.2	886.7
162.5°	901.9	901.5	901.0	900.6	900.2	899.9	899.7	899.6	899.4	899.2	900.1
165°	921.1	920.6	920.1	919.6	919.1	918.7	918.3	918.0	917.7	917.3	918.3
167.5°	935.7	935.1	934.4	933.7	933.0	932.6	932.7	932.7	932.7	932.8	933.8
170°	944.1	943.2	942.4	941.6	940.8	940.4	940.6	940.8	940.9	941.1	942.1
172.5°	950.0	949.3	948.6	947.9	947.2	946.9	946.9	947.0	947.0	947.0	948.2
175°	958.2	957.3	956.5	955.7	954.9	954.4	954.2	954.0	953.9	953.7	954.9
177.5°	960.8	960.2	959.5	958.9	958.2	957.9	957.9	957.9	957.9	957.9	958.8
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8
2.5°	1985.7	1988.6	1991.4	1992.7	1992.4	1992.1	1991.8	1991.5
5°	1975.1	1979.0	1982.9	1984.5	1983.8	1983.1	1982.4	1981.6
7.5°	1953.1	1956.2	1959.3	1960.7	1960.3	1959.8	1959.4	1959.0
10°	1934.6	1937.5	1940.3	1941.4	1940.7	1940.0	1939.2	1938.5
12.5°	1912.2	1915.3	1918.5	1919.5	1918.5	1917.5	1916.5	1915.5
15°	1869.3	1871.5	1873.6	1874.1	1873.1	1872.0	1870.9	1869.9
17.5°	1820.5	1821.9	1823.2	1823.5	1822.8	1822.1	1821.4	1820.7
20°	1784.2	1785.2	1786.3	1786.5	1785.8	1785.1	1784.4	1783.6
22.5°	1746.3	1748.2	1750.1	1750.4	1749.2	1747.9	1746.6	1745.3
25°	1683.8	1684.1	1684.5	1683.9	1682.5	1681.1	1679.7	1678.3
27.5°	1613.6	1612.8	1611.9	1610.6	1608.8	1607.1	1605.3	1603.5
30°	1565.2	1563.8	1562.4	1560.8	1559.0	1557.3	1555.5	1553.7
32.5°	1516.1	1514.4	1512.7	1511.0	1509.2	1507.4	1505.7	1503.9
35°	1438.6	1436.1	1433.6	1431.5	1429.7	1427.9	1426.1	1424.4
37.5°	1357.3	1354.6	1351.9	1349.4	1347.1	1344.7	1342.4	1340.0
40°	1300.7	1297.1	1293.6	1290.9	1289.2	1287.4	1285.6	1283.8
42.5°	1245.9	1241.8	1237.7	1235.0	1233.8	1232.6	1231.4	1230.2
45°	1161.1	1157.2	1153.3	1150.8	1149.7	1148.6	1147.6	1146.5
47.5°	1079.0	1074.6	1070.2	1066.6	1063.9	1061.2	1058.5	1055.8
50°	1021.6	1016.6	1011.7	1008.1	1006.0	1003.9	1001.7	999.6
52.5°	962.7	958.3	953.9	950.4	947.7	945.0	942.3	939.6
55°	876.1	871.9	867.6	864.4	862.3	860.2	858.0	855.9
57.5°	789.4	785.3	781.3	778.2	776.2	774.1	772.0	770.0
60°	729.7	726.6	723.4	720.9	719.1	717.3	715.6	713.8
62.5°	671.5	668.6	665.7	663.4	661.6	659.8	658.1	656.3
65°	586.9	583.4	579.8	577.2	575.4	573.6	571.8	570.1
67.5°	499.7	496.3	492.9	490.9	490.4	489.9	489.4	488.9
70°	444.6	441.8	438.9	437.0	435.9	434.9	433.8	432.7
72.5°	389.6	387.3	385.0	383.3	382.3	381.2	380.1	379.1
75°	310.1	308.7	307.3	306.4	306.1	305.7	305.3	305.0
77.5°	234.8	234.4	234.0	233.3	232.4	231.5	230.5	229.6
80°	187.0	186.3	185.6	185.1	184.7	184.3	184.0	183.6
82.5°	144.1	143.7	143.3	142.9	142.5	142.2	141.8	141.5
85°	83.0	83.0	83.0	82.9	82.5	82.1	81.8	81.4
87.5°	34.3	34.5	34.7	34.8	34.9	35.0	35.0	35.1
90°	18.3	19.3	20.3	20.9	21.3	21.6	21.9	22.3
92.5°	30.6	31.2	31.8	32.2	32.4	32.6	32.8	33.0
95°	57.4	57.9	58.4	58.6	58.6	58.6	58.6	58.6
97.5°	90.4	91.0	91.6	91.9	91.9	91.9	91.9	91.9
100°	114.2	114.5	114.9	115.0	115.0	115.0	115.0	115.0
102.5°	139.4	139.9	140.3	140.6	140.8	140.9	141.0	141.2
105°	177.6	178.1	178.6	179.1	179.6	180.1	180.6	181.1
107.5°	219.0	219.4	219.9	220.1	220.1	220.1	220.0	220.0
110°	246.5	246.2	245.8	245.9	246.4	246.9	247.4	247.9



TEST NUMBER: P332846

CATALOG NUMBER: S124DIW-S1195D770U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.1	276.0	276.0	276.0	276.1	276.2	276.3	276.4
115°	321.8	321.6	321.4	321.3	321.1	321.0	320.8	320.6
117.5°	365.7	365.1	364.5	364.1	363.8	363.4	363.1	362.8
120°	395.4	394.6	393.8	393.5	393.9	394.2	394.5	394.8
122.5°	425.6	425.1	424.5	423.9	423.3	422.7	422.2	421.6
125°	469.9	469.6	469.2	468.9	468.6	468.2	467.9	467.6
127.5°	512.2	511.9	511.5	511.2	511.0	510.7	510.4	510.2
130°	541.9	541.5	541.2	540.7	540.1	539.4	538.7	538.1
132.5°	569.8	569.5	569.1	568.8	568.6	568.3	568.0	567.8
135°	611.6	611.3	611.0	610.6	610.1	609.6	609.1	608.6
137.5°	652.1	651.7	651.3	651.1	651.2	651.3	651.4	651.5
140°	678.8	678.6	678.4	678.3	678.1	677.9	677.8	677.6
142.5°	704.0	703.9	703.9	703.9	703.8	703.8	703.8	703.7
145°	741.9	741.7	741.5	741.2	740.7	740.2	739.7	739.2
147.5°	776.2	776.1	775.9	775.8	775.6	775.5	775.3	775.1
150°	797.9	797.9	797.9	797.8	797.6	797.4	797.3	797.1
152.5°	818.2	818.6	819.0	819.0	818.6	818.2	817.7	817.3
155°	846.7	847.3	848.0	848.0	847.3	846.7	846.0	845.4
157.5°	871.7	872.2	872.7	872.7	872.1	871.6	871.0	870.4
160°	887.2	887.7	888.2	888.0	887.2	886.3	885.5	884.7
162.5°	901.0	901.9	902.8	902.8	902.0	901.2	900.4	899.5
165°	919.3	920.3	921.3	921.5	920.8	920.1	919.5	918.8
167.5°	934.8	935.7	936.7	936.7	935.7	934.7	933.7	932.6
170°	943.1	944.1	945.1	945.0	943.8	942.7	941.5	940.4
172.5°	949.3	950.4	951.5	951.5	950.3	949.2	948.0	946.9
175°	956.0	957.2	958.3	958.3	957.2	956.0	954.9	953.7
177.5°	959.7	960.6	961.6	961.5	960.4	959.4	958.3	957.3
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6

(END OF REPORT)