

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: P333014-840

Luminaire Tested: **S124RDIP-S1195D1205U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333014-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1195D1205U840-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9213.1 lumens
Efficiency: N/A
Efficacy: 128.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

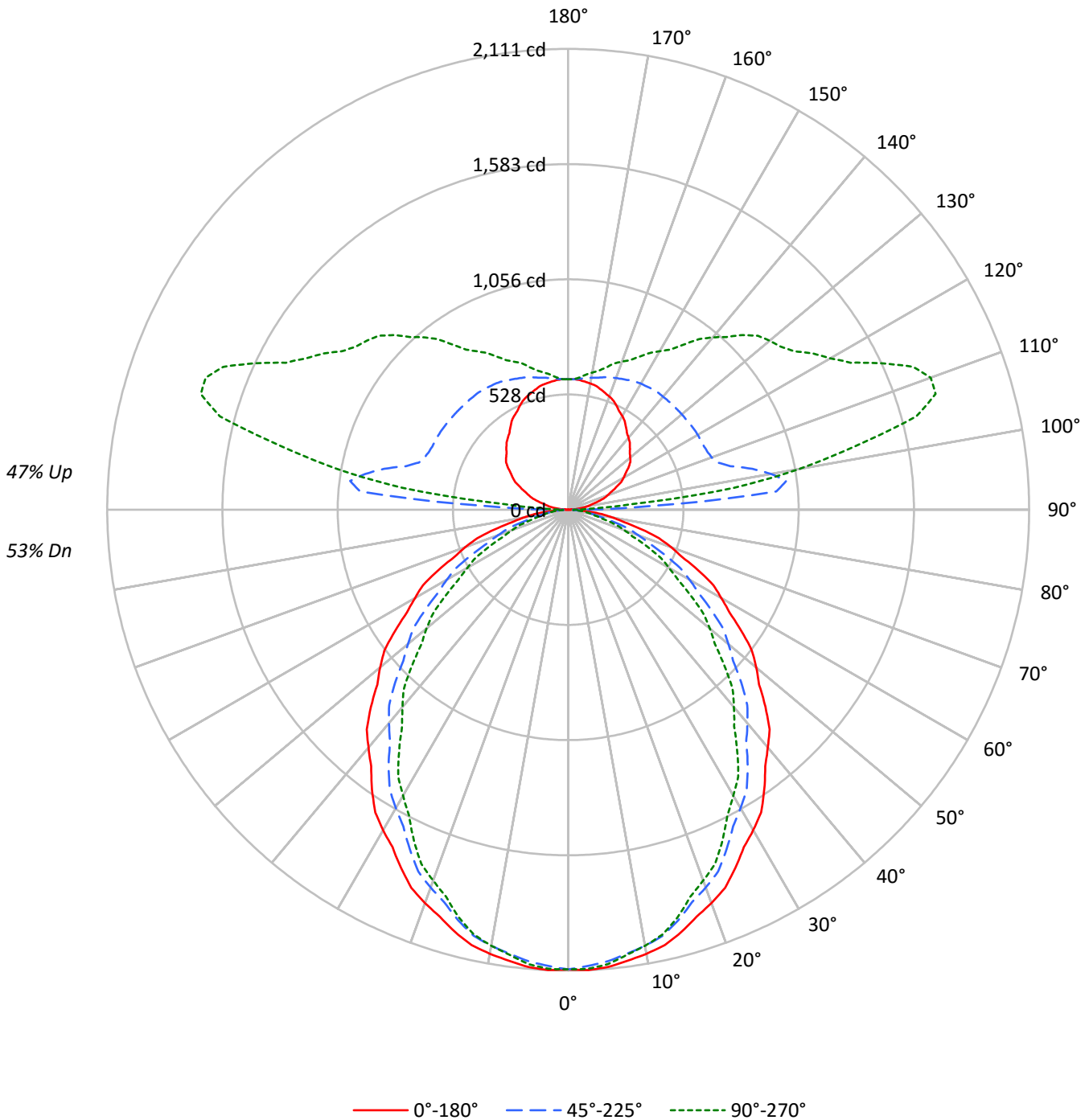
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	94	91	87	91	88	84	81	75	73	70	63	62	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	46	44	43	38
3	82	73	66	60	76	68	62	57	58	54	50	50	46	43	41	39	37	33
4	75	65	57	51	70	60	53	48	52	47	43	44	40	37	37	34	32	28
5	69	58	50	44	64	54	47	42	47	41	37	40	36	32	34	30	28	25
6	64	52	44	38	59	49	41	36	42	37	32	36	32	28	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	26	22	20	17
9	51	39	32	27	48	37	30	25	32	27	23	28	23	20	24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17002	17002	17002
5°	17040	16832	16936
10°	16934	16629	16629
15°	16739	16280	16160
20°	16472	15821	15530
25°	16131	15284	14895
30°	15800	14716	14100
35°	15431	14128	13302
40°	14989	13460	12440
45°	14582	12795	11562
50°	14117	12031	10633
55°	13619	11234	9623
60°	13070	10362	8591
65°	12567	9270	7578
70°	11837	8068	6434
75°	10914	6691	5231
80°	9521	5100	4798
85°	8068	4631	4335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.8	2.1
10°-20°	551.7	6.0
20°-30°	796.6	8.6
30°-40°	903.0	9.8
40°-50°	872.0	9.5
50°-60°	725.1	7.9
60°-70°	500.7	5.4
70°-80°	253.8	2.8
80°-90°	68.4	0.7
90°-100°	431.4	4.7
100°-110°	897.9	9.7
110°-120°	804.2	8.7
120°-130°	676.5	7.3
130°-140°	564.1	6.1
140°-150°	430.9	4.7
150°-160°	302.9	3.3
160°-170°	178.2	1.9
170°-180°	58.0	0.6
0°-30°	1546.1	16.8
0°-40°	2449.1	26.6
0°-60°	4046.2	43.9
0°-90°	4869.1	52.8
90°-120°	2133.5	23.2
90°-150°	3805.0	41.3
90°-180°	4344.0	47.2
0°-180°	9213.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2106	2106	2106	2106	2106	
5°	2103	2096	2077	2092	2090	199
15°	2003	1987	1948	1944	1934	564
25°	1811	1780	1716	1689	1672	834
35°	1566	1513	1434	1380	1350	978
45°	1277	1215	1121	1044	1013	984
55°	968	901	798	717	684	865
65°	658	587	485	419	397	649
75°	350	289	214	179	168	369
85°	87	56	50	47	47	98
90°	1	9	21	23	25	6
95°	39	122	956	474	286	43
105°	137	199	770	1658	1651	146
115°	242	303	686	1319	1585	240
125°	337	400	683	1122	1265	300
135°	400	476	677	996	1131	309
145°	461	528	674	840	924	289
155°	524	566	655	742	773	242
165°	572	589	628	665	675	161
175°	596	597	602	610	608	57
180°	597	597	597	597	597	



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CATALOG NUMBER: S124RDIP-S1195D1205U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2111.1	2110.0	2108.9	2107.7	2106.6	2104.5	2101.3	2098.1	2095.0	2091.8	2095.0
5°	2102.7	2101.3	2099.9	2098.5	2097.1	2094.2	2089.9	2085.6	2081.3	2077.0	2080.5
7.5°	2083.8	2082.2	2080.7	2079.2	2077.7	2074.2	2068.6	2063.1	2057.4	2051.8	2054.2
10°	2065.7	2063.9	2062.1	2060.3	2058.5	2054.4	2048.0	2041.5	2035.1	2028.6	2030.0
12.5°	2042.5	2040.4	2038.3	2036.2	2034.2	2029.3	2021.7	2014.2	2006.5	1998.9	1999.8
15°	2002.8	1999.5	1996.4	1993.2	1989.9	1983.8	1974.9	1965.9	1956.9	1947.9	1947.2
17.5°	1954.8	1950.0	1945.4	1940.8	1936.1	1928.4	1917.6	1906.9	1896.1	1885.4	1883.4
20°	1917.3	1912.7	1908.0	1903.4	1898.7	1890.3	1878.1	1865.9	1853.7	1841.6	1838.7
22.5°	1876.0	1870.9	1865.6	1860.4	1855.1	1846.0	1832.9	1819.9	1806.9	1793.8	1789.5
25°	1810.9	1804.4	1798.0	1791.6	1785.1	1774.5	1759.9	1745.1	1730.5	1715.8	1709.7
27.5°	1742.5	1734.4	1726.4	1718.3	1710.1	1698.3	1682.5	1666.9	1651.1	1635.5	1627.9
30°	1694.9	1685.9	1676.9	1667.9	1659.0	1646.1	1629.2	1612.4	1595.6	1578.7	1569.7
32.5°	1644.5	1634.4	1624.3	1614.2	1604.1	1590.3	1572.9	1555.5	1538.0	1520.7	1510.3
35°	1565.8	1554.3	1542.9	1531.4	1519.9	1505.2	1487.3	1469.5	1451.5	1433.6	1421.4
37.5°	1481.7	1469.8	1457.9	1446.1	1434.3	1418.5	1398.7	1378.8	1359.0	1339.1	1325.4
40°	1422.3	1410.5	1398.7	1386.8	1374.9	1358.9	1338.5	1318.0	1297.6	1277.2	1262.1
42.5°	1365.5	1353.1	1340.7	1328.3	1316.0	1299.1	1277.8	1256.5	1235.3	1214.0	1198.6
45°	1277.2	1263.8	1250.6	1237.4	1224.2	1206.7	1185.3	1163.8	1142.3	1120.7	1103.2
47.5°	1185.9	1172.2	1158.5	1144.8	1131.1	1113.1	1090.8	1068.3	1046.0	1023.7	1005.4
50°	1124.0	1109.9	1096.0	1082.1	1068.0	1049.6	1026.6	1003.7	980.8	957.9	940.0
52.5°	1060.8	1047.0	1033.4	1019.7	1006.0	987.3	963.9	940.4	916.9	893.3	875.1
55°	967.6	953.2	938.9	924.5	910.2	891.4	868.1	844.9	821.5	798.2	779.6
57.5°	875.3	860.4	845.5	830.6	815.7	796.8	773.9	750.8	727.9	705.0	686.1
60°	809.5	795.2	780.8	766.5	752.1	733.6	710.6	687.7	664.7	641.8	623.2
62.5°	750.1	735.3	720.3	705.5	690.5	671.4	647.8	624.3	600.8	577.3	560.1
65°	657.9	642.5	627.1	611.7	596.3	577.1	554.2	531.3	508.4	485.3	470.0
67.5°	562.1	547.3	532.6	517.9	503.1	485.0	463.7	442.5	421.2	399.9	386.7
70°	501.5	486.5	471.4	456.4	441.3	423.5	403.1	382.7	362.3	341.8	330.0
72.5°	437.0	423.4	409.8	396.2	382.5	366.1	346.8	327.5	308.2	288.9	278.8
75°	349.9	336.7	323.4	310.1	296.9	281.9	265.0	248.1	231.4	214.5	206.2
77.5°	261.6	250.3	239.0	227.8	216.5	204.1	190.5	176.9	163.3	149.7	144.8
80°	204.8	194.4	184.0	173.6	163.2	152.7	141.9	131.2	120.4	109.7	108.6
82.5°	155.8	146.2	136.7	127.1	117.6	109.8	103.6	97.5	91.3	85.1	84.3
85°	87.1	79.9	72.7	65.5	58.4	54.3	53.2	52.1	51.1	50.0	49.3
87.5°	29.9	28.1	26.5	24.4	22.4	21.1	22.2	21.9	22.1	22.3	21.8
90°	1.2	3.5	7.1	8.2	9.4	9.4	16.5	16.5	18.8	21.1	20.0
92.5°	13.3	19.5	30.5	44.8	62.0	86.3	146.0	237.0	325.8	372.2	310.0
95°	38.7	42.2	54.0	69.3	97.4	146.7	248.7	441.2	721.6	956.3	983.4
97.5°	69.5	69.5	79.6	93.6	117.9	159.2	237.7	396.7	675.4	1007.3	1235.5
100°	89.2	89.2	97.4	111.5	133.8	171.4	240.5	373.1	612.6	943.4	1243.9
102.5°	108.0	109.9	117.1	130.3	151.6	187.3	249.9	366.6	570.3	863.6	1173.5
105°	137.3	140.8	146.7	160.8	181.9	215.9	272.3	369.6	533.9	769.8	1045.5
107.5°	169.7	172.0	177.9	192.9	213.1	246.7	298.3	387.0	527.4	717.2	942.3
110°	191.3	193.6	199.4	213.6	234.7	266.4	318.0	400.1	529.3	699.4	890.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	212.0	214.3	221.1	234.2	255.4	287.0	336.8	414.2	534.8	690.9	861.5
115°	241.8	245.3	253.5	265.2	287.5	319.2	366.1	436.6	545.6	686.5	834.4
117.5°	272.7	276.0	283.3	296.2	317.1	349.9	394.6	459.3	557.1	685.3	822.1
120°	293.4	295.7	304.0	316.8	336.8	369.6	414.2	475.2	565.6	685.3	815.6
122.5°	312.1	314.5	322.8	334.7	356.5	388.4	433.0	490.3	574.1	684.4	808.1
125°	336.8	341.4	348.5	361.4	383.7	416.6	458.8	512.8	586.7	683.0	795.6
127.5°	358.6	362.3	370.8	385.6	408.8	441.9	482.7	532.3	596.8	680.3	778.9
130°	370.8	375.5	384.9	402.5	424.7	458.8	498.8	544.5	604.3	679.4	768.6
132.5°	383.0	386.8	399.0	415.7	439.8	472.0	511.9	556.7	610.9	678.5	759.2
135°	400.1	404.9	416.6	436.6	461.2	491.7	530.4	572.7	620.8	677.1	745.2
137.5°	417.3	421.7	434.6	453.6	479.3	508.4	544.5	583.9	626.6	676.8	733.0
140°	429.5	433.0	446.0	465.9	490.5	518.7	553.9	591.4	631.4	675.9	726.4
142.5°	442.6	446.2	458.1	477.2	500.8	528.1	562.3	597.0	635.1	675.9	720.7
145°	461.2	464.7	476.5	492.8	515.1	541.0	571.5	603.2	637.2	673.6	711.1
147.5°	482.0	483.2	493.5	510.5	529.0	552.2	580.9	608.5	638.3	669.3	702.5
150°	495.2	496.3	505.7	519.9	537.5	559.8	585.5	611.4	638.3	666.5	695.9
152.5°	507.4	507.7	517.1	530.2	545.9	566.3	589.4	613.3	636.5	661.9	688.3
155°	524.5	525.7	532.7	544.5	557.4	575.0	594.9	614.9	633.7	654.8	677.1
157.5°	541.2	541.2	547.8	556.9	568.2	582.1	599.0	614.9	630.7	647.5	665.6
160°	551.5	551.5	556.2	564.4	573.8	586.7	600.8	614.9	627.8	641.9	657.1
162.5°	560.9	560.0	563.7	571.0	579.5	589.6	602.7	614.9	625.0	636.2	649.6
165°	571.5	571.5	573.8	579.7	585.5	592.6	603.2	612.6	619.6	627.8	637.2
167.5°	582.1	580.9	582.1	586.5	589.8	595.2	602.9	609.8	614.0	619.4	625.9
170°	586.7	585.5	586.7	590.3	592.6	596.1	602.0	607.8	610.2	613.7	618.4
172.5°	591.4	590.3	590.5	593.1	594.5	597.0	601.1	606.0	606.4	608.0	611.9
175°	596.1	594.9	594.9	596.1	597.3	597.3	599.7	603.2	602.0	602.0	604.3
177.5°	598.2	597.3	596.3	597.3	597.3	597.3	598.2	600.1	598.2	598.2	599.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2098.1	2101.3	2104.5	2105.9	2105.6	2105.3	2105.0	2104.8
5°	2084.2	2087.7	2091.3	2092.7	2092.0	2091.3	2090.6	2089.9
7.5°	2056.4	2058.7	2061.0	2061.5	2060.4	2059.3	2058.1	2057.0
10°	2031.4	2032.9	2034.4	2034.4	2032.9	2031.4	2030.0	2028.6
12.5°	2000.6	2001.6	2002.4	2001.8	1999.8	1997.8	1995.8	1993.8
15°	1946.5	1945.8	1945.1	1943.5	1941.0	1938.4	1936.0	1933.5
17.5°	1881.4	1879.4	1877.3	1874.5	1870.7	1866.8	1863.1	1859.3
20°	1835.8	1832.9	1830.1	1826.3	1821.7	1817.1	1812.3	1807.7
22.5°	1785.2	1780.9	1776.7	1772.6	1768.8	1764.9	1761.2	1757.4
25°	1703.5	1697.5	1691.4	1686.6	1682.9	1679.4	1675.8	1672.2
27.5°	1620.4	1612.9	1605.4	1599.0	1593.9	1588.7	1583.6	1578.4
30°	1560.7	1551.9	1542.9	1535.5	1529.7	1524.1	1518.3	1512.6
32.5°	1499.9	1489.4	1479.0	1471.2	1465.7	1460.3	1454.8	1449.4
35°	1409.2	1397.0	1384.8	1375.5	1369.1	1362.6	1356.1	1349.7
37.5°	1311.8	1298.2	1284.6	1274.6	1268.1	1261.6	1255.3	1248.8
40°	1247.1	1232.0	1217.0	1206.2	1199.7	1193.3	1186.9	1180.4
42.5°	1183.3	1167.9	1152.6	1141.6	1134.8	1128.1	1121.4	1114.6
45°	1085.6	1068.0	1050.5	1038.4	1032.1	1025.6	1019.2	1012.7
47.5°	987.2	969.1	950.9	938.2	931.1	924.0	916.9	909.8
50°	922.0	904.1	886.2	873.8	867.1	860.2	853.4	846.6
52.5°	857.0	838.8	820.5	807.9	800.8	793.8	786.6	779.5
55°	760.9	742.4	723.7	710.9	704.2	697.3	690.5	683.7
57.5°	667.2	648.2	629.3	617.3	612.2	606.9	601.8	596.6
60°	604.5	585.9	567.2	555.1	549.4	543.6	537.9	532.1
62.5°	542.9	525.7	508.5	497.6	493.0	488.5	483.8	479.3
65°	454.5	439.2	423.7	413.8	409.6	405.3	401.0	396.7
67.5°	373.4	360.1	346.9	337.9	333.2	328.4	323.7	318.9
70°	318.2	306.4	294.6	286.9	283.3	279.7	276.1	272.6
72.5°	268.7	258.6	248.5	241.9	238.5	235.3	232.0	228.6
75°	198.0	189.8	181.5	176.3	174.2	172.0	169.9	167.7
77.5°	140.1	135.2	130.5	127.7	127.0	126.4	125.8	125.1
80°	107.6	106.4	105.3	104.6	104.3	103.9	103.6	103.2
82.5°	83.6	82.8	82.0	81.4	81.1	80.7	80.4	80.0
85°	48.6	47.9	47.2	46.8	46.8	46.8	46.8	46.8
87.5°	21.7	21.6	21.6	21.6	22.1	22.6	22.7	23.0
90°	21.1	22.3	23.4	23.4	24.6	25.9	24.6	24.6
92.5°	230.5	173.4	138.0	114.5	100.7	94.3	90.4	90.4
95°	869.5	687.6	530.4	416.6	359.1	322.8	301.5	286.3
97.5°	1284.8	1217.1	1102.4	979.9	895.5	825.0	789.7	765.4
100°	1415.2	1438.7	1381.2	1294.3	1192.2	1120.6	1085.5	1076.1
102.5°	1408.7	1525.0	1541.7	1505.5	1442.9	1391.0	1353.9	1346.5
105°	1314.2	1517.3	1633.5	1681.5	1683.9	1674.6	1658.1	1651.0
107.5°	1180.2	1396.4	1560.0	1664.7	1722.6	1749.4	1761.1	1764.2
110°	1099.5	1302.5	1472.7	1601.7	1685.1	1734.3	1755.5	1766.1



TEST NUMBER: P333014-840

CATALOG NUMBER: S124RDIP-S1195D1205U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1040.4	1219.9	1380.7	1509.7	1604.4	1664.0	1693.5	1710.7
115°	981.0	1125.4	1262.6	1375.3	1468.0	1538.4	1576.0	1585.4
117.5°	951.9	1071.4	1179.3	1274.9	1353.9	1413.1	1451.1	1458.3
120°	938.8	1047.9	1141.8	1225.1	1292.0	1343.6	1374.1	1387.0
122.5°	927.5	1032.9	1118.3	1191.3	1247.9	1292.0	1317.8	1330.7
125°	908.3	1009.2	1090.1	1154.7	1201.6	1235.7	1258.0	1265.0
127.5°	884.7	981.3	1062.0	1123.3	1170.4	1200.7	1219.5	1226.5
130°	866.1	958.8	1038.5	1100.8	1148.8	1178.1	1196.9	1204.0
132.5°	846.3	933.4	1011.3	1073.5	1120.6	1153.8	1171.5	1178.6
135°	819.1	895.3	966.9	1025.6	1072.6	1105.4	1124.2	1131.3
137.5°	794.5	859.0	919.3	972.3	1016.2	1048.6	1064.1	1072.6
140°	780.3	835.5	888.3	937.6	978.7	1004.5	1020.9	1030.3
142.5°	767.2	815.8	861.1	903.8	940.2	964.1	978.7	985.2
145°	748.7	788.6	823.7	856.7	886.0	905.9	917.7	923.5
147.5°	733.5	765.1	793.2	819.1	840.7	857.8	866.8	868.8
150°	724.1	751.0	774.5	795.6	814.4	829.6	836.7	837.9
152.5°	713.7	736.9	758.5	775.9	791.8	804.3	808.5	809.7
155°	698.2	717.0	734.6	748.7	760.4	769.8	773.4	773.4
157.5°	681.6	697.3	712.1	723.4	732.3	739.3	741.4	741.4
160°	671.3	684.1	697.0	706.4	713.5	720.5	721.6	721.6
162.5°	660.9	672.0	682.1	690.4	695.6	702.7	703.9	702.9
165°	646.6	653.6	661.9	667.7	672.4	677.1	675.9	674.8
167.5°	632.8	638.1	644.7	648.2	650.6	653.6	653.4	652.5
170°	624.3	627.8	632.5	636.0	638.3	639.5	638.3	638.3
172.5°	616.7	619.4	622.2	624.7	626.1	627.3	626.1	624.3
175°	606.7	607.8	610.2	610.2	610.2	612.6	610.2	607.8
177.5°	600.1	601.1	601.1	602.0	601.1	602.0	600.1	598.2
180°	597.3	597.3	597.3	597.3	597.3	597.3	597.3	597.3

(END OF REPORT)