

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: P332714-840

Luminaire Tested: **S124DIP-S1195D1205U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332714-840  
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: S124DIP-S1195D1205U840-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

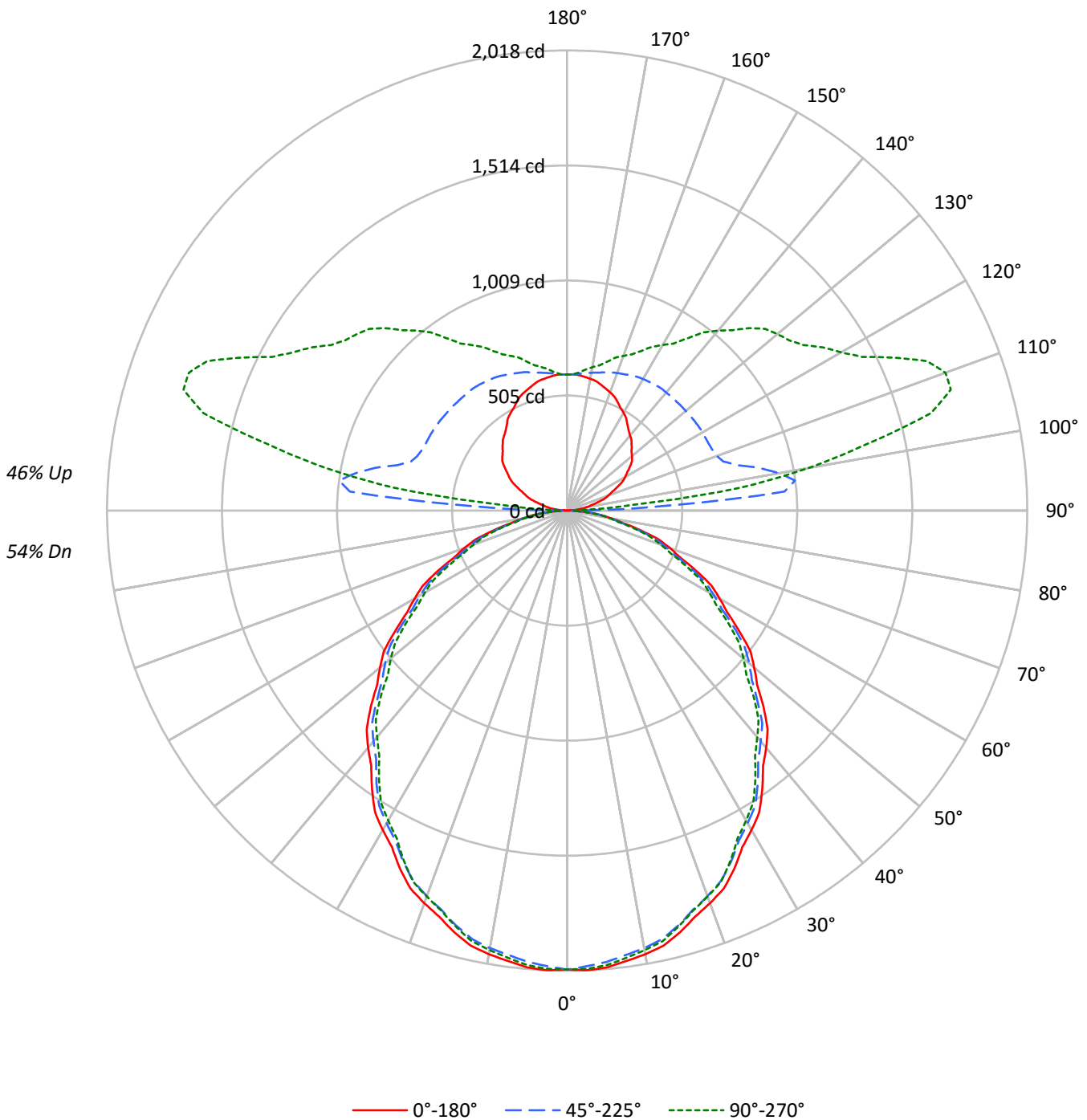
Lumens per Lamp: N/A  
Luminaire Lumens: 9511.7 lumens  
Efficiency: N/A  
Efficacy: 132.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 71.7  
Input Voltage (V): 120  
Input Current (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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	99	94	90	87	91	88	84	81	75	73	70	64	62	60	53	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	50	47	45	43	38
3	82	72	65	59	76	67	61	56	58	53	49	49	46	43	41	39	36	32
4	75	64	56	50	69	60	53	47	52	46	42	44	40	36	37	34	31	28
5	69	57	49	43	64	53	46	41	46	40	36	40	35	32	33	30	27	24
6	63	51	43	37	59	48	41	35	42	36	31	36	31	28	30	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	21	19
8	55	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17
9	51	38	31	26	47	36	29	25	32	26	22	27	23	20	23	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14

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

	0°	45°	90°
0°	16247	16247	16247
5°	16295	16100	16216
10°	16193	15969	16047
15°	15998	15742	15782
20°	15738	15460	15474
25°	15441	15139	15097
30°	15077	14762	14626
35°	14701	14366	14177
40°	14309	13918	13663
45°	13900	13476	13218
50°	13448	13083	12679
55°	12960	12573	12165
60°	12471	12003	11638
65°	11922	11459	10997
70°	11306	10733	10315
75°	10359	9860	9607
80°	9219	8847	8619
85°	8068	7762	7614



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.5	2.0
10°-20°	534.0	5.6
20°-30°	786.0	8.3
30°-40°	913.7	9.6
40°-50°	913.7	9.6
50°-60°	799.3	8.4
60°-70°	593.6	6.2
70°-80°	337.2	3.5
80°-90°	100.6	1.1
90°-100°	431.4	4.5
100°-110°	897.9	9.4
110°-120°	804.2	8.5
120°-130°	676.5	7.1
130°-140°	564.1	5.9
140°-150°	430.9	4.5
150°-160°	302.9	3.2
160°-170°	178.2	1.9
170°-180°	58.0	0.6
0°-30°	1509.5	15.9
0°-40°	2423.2	25.5
0°-60°	4136.2	43.5
0°-90°	5167.6	54.3
90°-120°	2133.5	22.4
90°-150°	3805.0	40.0
90°-180°	4344.0	45.7
0°-180°	9511.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2012	2012	2012	2012	2012	
5°	2011	2004	1987	2003	2001	191
15°	1914	1907	1884	1892	1888	539
25°	1734	1722	1700	1701	1695	797
35°	1492	1480	1458	1447	1438	932
45°	1218	1205	1180	1163	1158	938
55°	921	915	893	875	864	824
65°	624	616	600	584	576	618
75°	332	324	316	310	308	353
85°	87	87	84	84	82	96
90°	1	9	21	23	25	7
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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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5
2.5°	2017.6	2016.8	2015.9	2015.1	2014.2	2012.2	2009.0	2005.9	2002.8	1999.6	2002.5
5°	2010.8	2009.4	2008.0	2006.6	2005.2	2002.5	1998.5	1994.6	1990.6	1986.7	1990.6
7.5°	1992.2	1990.7	1989.3	1987.8	1986.4	1983.6	1979.1	1974.8	1970.4	1966.0	1969.2
10°	1975.4	1974.0	1972.6	1971.1	1969.6	1966.6	1962.0	1957.3	1952.7	1948.0	1950.9
12.5°	1953.5	1952.1	1950.6	1949.1	1947.7	1944.5	1939.6	1934.7	1929.8	1924.8	1927.9
15°	1914.1	1912.7	1911.3	1909.9	1908.3	1905.0	1899.6	1894.2	1888.9	1883.5	1885.6
17.5°	1866.7	1864.9	1863.1	1861.4	1859.6	1856.1	1851.0	1845.9	1840.9	1835.7	1837.1
20°	1831.9	1830.1	1828.3	1826.5	1824.7	1821.1	1815.7	1810.4	1805.0	1799.6	1800.7
22.5°	1794.4	1792.1	1789.8	1787.4	1785.0	1781.1	1775.7	1770.4	1765.0	1759.6	1761.6
25°	1733.5	1731.0	1728.5	1726.0	1723.4	1719.7	1714.6	1709.7	1704.7	1699.6	1700.0
27.5°	1663.9	1661.2	1658.7	1656.1	1653.6	1649.9	1645.3	1640.6	1636.0	1631.2	1630.4
30°	1617.4	1614.6	1611.6	1608.8	1606.0	1602.2	1597.5	1592.9	1588.2	1583.6	1582.2
32.5°	1568.4	1565.8	1563.3	1560.6	1558.0	1554.3	1549.3	1544.4	1539.4	1534.5	1532.8
35°	1491.7	1489.1	1486.6	1484.1	1481.6	1477.8	1472.8	1467.8	1462.8	1457.7	1455.2
37.5°	1410.7	1408.4	1406.1	1403.8	1401.5	1397.7	1392.3	1386.9	1381.5	1376.1	1373.4
40°	1357.8	1354.9	1352.0	1349.2	1346.4	1342.2	1336.9	1331.4	1326.1	1320.7	1317.1
42.5°	1301.0	1299.3	1297.6	1295.9	1294.1	1290.3	1284.3	1278.4	1272.4	1266.5	1262.3
45°	1217.5	1215.0	1212.4	1209.9	1207.5	1203.4	1197.6	1191.8	1186.1	1180.4	1176.5
47.5°	1130.0	1128.3	1126.6	1124.9	1123.2	1119.7	1114.4	1109.1	1103.8	1098.5	1094.1
50°	1070.8	1069.3	1067.8	1066.4	1065.0	1061.8	1056.7	1051.8	1046.7	1041.7	1036.7
52.5°	1012.7	1011.0	1009.3	1007.5	1005.8	1002.3	997.0	991.7	986.4	981.1	976.6
55°	920.8	919.7	918.7	917.6	916.5	913.4	908.4	903.4	898.4	893.3	889.1
57.5°	833.0	831.8	830.6	829.4	828.2	825.1	820.1	815.2	810.2	805.3	801.2
60°	772.4	770.6	768.8	767.1	765.3	762.0	757.4	752.8	748.0	743.4	740.1
62.5°	713.1	711.6	710.0	708.5	707.1	703.9	698.9	694.0	689.0	684.1	681.2
65°	624.1	622.3	620.5	618.6	616.9	614.2	610.7	607.0	603.5	599.9	596.3
67.5°	534.4	532.8	531.1	529.5	527.9	525.2	521.8	518.4	514.9	511.5	508.1
70°	479.0	476.5	473.9	471.4	468.9	466.3	463.3	460.5	457.6	454.7	451.9
72.5°	419.6	417.1	414.5	412.0	409.6	407.2	404.9	402.5	400.3	398.0	395.7
75°	332.1	330.4	328.6	326.8	325.0	323.3	321.4	319.6	317.9	316.1	314.7
77.5°	248.6	247.8	247.1	246.3	245.5	244.3	242.8	241.2	239.6	238.0	237.6
80°	198.3	197.2	196.2	195.1	194.1	193.2	192.5	191.7	191.0	190.3	189.6
82.5°	149.4	148.9	148.3	147.8	147.3	147.0	146.8	146.7	146.5	146.4	146.0
85°	87.1	87.1	87.1	87.1	87.1	86.7	86.0	85.3	84.5	83.8	83.8
87.5°	33.7	33.9	34.3	34.3	34.2	34.0	35.1	34.8	35.0	35.1	34.9
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°	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5
2.5°	2005.3	2008.2	2011.0	2012.4	2012.1	2011.8	2011.4	2011.1
5°	1994.6	1998.5	2002.5	2004.1	2003.4	2002.7	2002.0	2001.1
7.5°	1972.4	1975.5	1978.6	1980.0	1979.6	1979.1	1978.7	1978.3
10°	1953.7	1956.6	1959.4	1960.6	1959.8	1959.1	1958.3	1957.6
12.5°	1931.1	1934.2	1937.4	1938.4	1937.4	1936.4	1935.4	1934.4
15°	1887.7	1890.0	1892.1	1892.6	1891.6	1890.5	1889.4	1888.3
17.5°	1838.5	1839.9	1841.2	1841.5	1840.8	1840.1	1839.4	1838.7
20°	1801.8	1802.8	1803.9	1804.1	1803.4	1802.7	1802.0	1801.2
22.5°	1763.5	1765.4	1767.4	1767.7	1766.5	1765.1	1763.8	1762.5
25°	1700.4	1700.7	1701.1	1700.5	1699.1	1697.7	1696.3	1694.9
27.5°	1629.5	1628.7	1627.8	1626.5	1624.7	1623.0	1621.1	1619.3
30°	1580.6	1579.2	1577.8	1576.2	1574.4	1572.7	1570.8	1569.0
32.5°	1531.1	1529.3	1527.6	1525.9	1524.1	1522.3	1520.6	1518.7
35°	1452.8	1450.3	1447.7	1445.6	1443.8	1442.0	1440.2	1438.5
37.5°	1370.7	1368.0	1365.2	1362.7	1360.4	1358.0	1355.6	1353.2
40°	1313.5	1309.9	1306.4	1303.6	1301.9	1300.1	1298.3	1296.5
42.5°	1258.2	1254.1	1249.9	1247.2	1246.0	1244.8	1243.5	1242.3
45°	1172.6	1168.6	1164.7	1162.2	1161.0	1159.9	1158.9	1157.8
47.5°	1089.6	1085.2	1080.8	1077.1	1074.4	1071.7	1068.9	1066.2
50°	1031.7	1026.6	1021.7	1018.0	1015.9	1013.8	1011.6	1009.5
52.5°	972.2	967.8	963.3	959.8	957.0	954.3	951.6	948.9
55°	884.7	880.5	876.2	872.9	870.8	868.7	866.5	864.3
57.5°	797.2	793.0	789.0	785.9	783.9	781.7	779.6	777.6
60°	736.9	733.8	730.5	728.0	726.2	724.4	722.7	720.8
62.5°	678.1	675.2	672.3	669.9	668.1	666.3	664.6	662.8
65°	592.7	589.2	585.5	582.9	581.1	579.3	577.4	575.7
67.5°	504.6	501.2	497.8	495.7	495.2	494.7	494.2	493.7
70°	449.0	446.2	443.2	441.3	440.2	439.2	438.1	437.0
72.5°	393.4	391.1	388.8	387.1	386.1	385.0	383.8	382.8
75°	313.2	311.7	310.3	309.4	309.1	308.7	308.3	308.0
77.5°	237.1	236.7	236.3	235.6	234.7	233.8	232.8	231.9
80°	188.8	188.1	187.4	186.9	186.5	186.1	185.8	185.4
82.5°	145.5	145.1	144.7	144.3	143.9	143.6	143.2	142.9
85°	83.8	83.8	83.8	83.7	83.3	82.9	82.6	82.2
87.5°	35.1	35.4	35.6	35.6	35.9	36.2	35.9	35.9
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: P332714-840

CATALOG NUMBER: S124DIP-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)