

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: P332989-935

Luminaire Tested: **S124RDIP-S1195D365U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332989-935
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: S124RDIP-S1195D365U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5241.1 lumens
Efficiency: N/A
Efficacy: 105.2 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: Semi-Direct

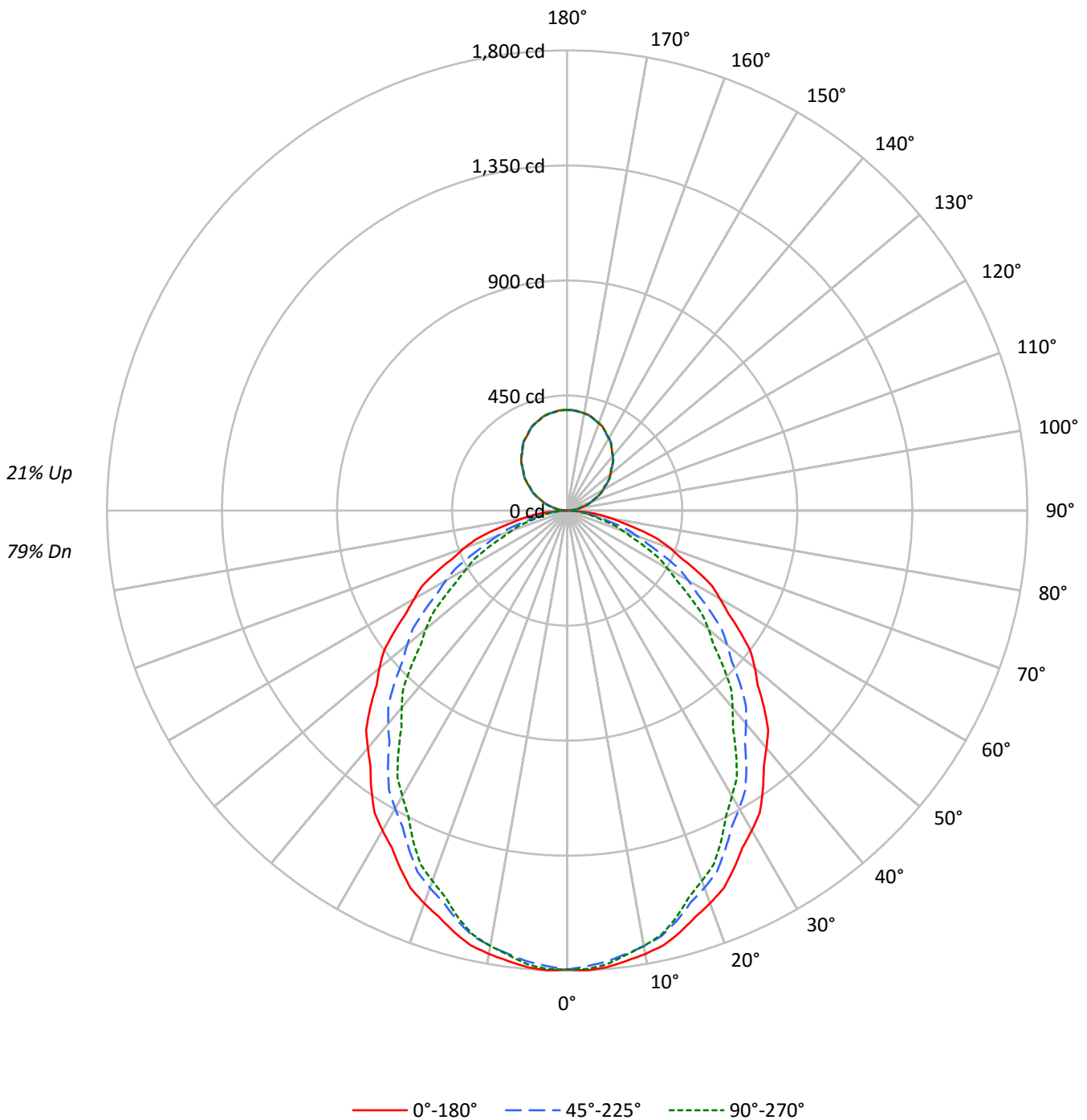
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	79
1	105	100	97	93	100	96	93	90	88	85	83	81	79	77	74	72	71	68
2	96	88	82	77	91	85	79	74	78	73	69	71	68	65	66	63	60	57
3	88	78	70	64	84	75	68	63	69	63	59	64	59	55	59	55	52	49
4	80	69	61	55	77	67	59	54	62	56	51	57	52	48	53	48	45	42
5	74	62	54	48	71	60	52	46	55	49	44	51	46	42	48	43	40	37
6	69	56	48	42	65	54	46	41	50	44	39	47	41	37	43	39	35	33
7	64	51	43	37	61	49	42	36	46	39	35	43	37	33	40	35	31	29
8	59	47	39	33	57	45	38	32	42	36	31	39	34	30	37	32	28	26
9	55	43	35	30	53	41	34	29	39	32	28	36	31	27	34	29	26	24
10	52	39	32	27	50	38	31	26	36	30	25	34	28	24	31	27	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14495	14495	14495
5°	14528	14350	14439
10°	14437	14178	14178
15°	14271	13881	13778
20°	14044	13489	13241
25°	13752	13030	12699
30°	13470	12547	12021
35°	13157	12046	11340
40°	12779	11475	10606
45°	12432	10909	9857
50°	12036	10257	9065
55°	11610	9578	8204
60°	11144	8835	7325
65°	10714	7904	6460
70°	10093	6878	5486
75°	9304	5705	4460
80°	8117	4347	4091
85°	6873	3946	3696



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.7	3.2
10°-20°	470.4	9.0
20°-30°	679.2	13.0
30°-40°	769.9	14.7
40°-50°	743.4	14.2
50°-60°	618.2	11.8
60°-70°	426.9	8.1
70°-80°	216.4	4.1
80°-90°	56.7	1.1
90°-100°	25.9	0.5
100°-110°	76.9	1.5
110°-120°	130.5	2.5
120°-130°	172.0	3.3
130°-140°	193.2	3.7
140°-150°	189.8	3.6
150°-160°	159.7	3.0
160°-170°	106.2	2.0
170°-180°	37.2	0.7
0°-30°	1318.2	25.2
0°-40°	2088.1	39.8
0°-60°	3449.7	65.8
0°-90°	4149.7	79.2
90°-120°	233.3	4.5
90°-150°	788.3	15.0
90°-180°	1091.0	20.8
0°-180°	5241.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1796	1796	1796	1796	1796	
5°	1793	1787	1771	1784	1782	170
15°	1708	1694	1661	1658	1648	481
25°	1544	1517	1463	1440	1426	711
35°	1335	1290	1222	1177	1151	834
45°	1089	1036	956	890	863	839
55°	825	768	680	612	583	738
65°	561	500	414	357	338	554
75°	298	247	183	152	143	315
85°	74	48	43	40	40	84
90°	1	4	7	8	9	5
95°	18	21	23	24	24	20
105°	71	71	72	73	74	75
115°	133	133	132	132	132	131
125°	193	193	193	192	192	172
135°	249	251	251	250	250	193
145°	303	304	304	304	303	189
155°	347	347	347	348	347	160
165°	378	377	376	378	377	106
175°	393	391	391	393	391	37
180°	393	393	393	393	393	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1799.9	1799.0	1798.0	1797.0	1796.0	1794.2	1791.6	1788.8	1786.1	1783.5	1786.1
5°	1792.8	1791.6	1790.4	1789.2	1788.0	1785.5	1781.8	1778.1	1774.5	1770.8	1773.8
7.5°	1776.6	1775.3	1774.0	1772.7	1771.4	1768.4	1763.7	1758.9	1754.1	1749.4	1751.4
10°	1761.2	1759.6	1758.2	1756.6	1755.1	1751.5	1746.1	1740.6	1735.1	1729.6	1730.8
12.5°	1741.4	1739.7	1737.8	1736.0	1734.3	1730.2	1723.7	1717.3	1710.7	1704.3	1705.0
15°	1707.5	1704.8	1702.1	1699.4	1696.6	1691.3	1683.8	1676.1	1668.4	1660.8	1660.2
17.5°	1666.6	1662.6	1658.6	1654.7	1650.7	1644.2	1635.0	1625.8	1616.6	1607.5	1605.8
20°	1634.7	1630.7	1626.8	1622.8	1618.9	1611.6	1601.3	1590.9	1580.5	1570.1	1567.6
22.5°	1599.5	1595.1	1590.6	1586.1	1581.7	1573.9	1562.7	1551.6	1540.5	1529.4	1525.7
25°	1543.9	1538.4	1532.9	1527.5	1522.0	1512.9	1500.5	1487.9	1475.4	1462.8	1457.7
27.5°	1485.7	1478.8	1471.9	1465.0	1458.0	1447.9	1434.5	1421.2	1407.7	1394.4	1387.9
30°	1445.0	1437.4	1429.7	1422.0	1414.5	1403.4	1389.1	1374.7	1360.4	1346.0	1338.3
32.5°	1402.1	1393.4	1384.8	1376.2	1367.6	1355.9	1341.0	1326.2	1311.3	1296.5	1287.6
35°	1335.0	1325.2	1315.4	1305.6	1295.9	1283.3	1268.1	1252.8	1237.5	1222.3	1211.9
37.5°	1263.3	1253.1	1243.0	1233.0	1222.9	1209.4	1192.5	1175.5	1158.6	1141.7	1130.1
40°	1212.6	1202.6	1192.5	1182.4	1172.3	1158.6	1141.2	1123.7	1106.3	1088.9	1076.1
42.5°	1164.2	1153.7	1143.1	1132.5	1122.0	1107.6	1089.4	1071.3	1053.2	1035.0	1021.9
45°	1088.9	1077.5	1066.3	1055.0	1043.7	1028.8	1010.6	992.2	973.9	955.5	940.6
47.5°	1011.1	999.4	987.7	976.0	964.4	949.0	930.0	910.9	891.8	872.8	857.2
50°	958.3	946.3	934.4	922.6	910.6	894.8	875.3	855.7	836.2	816.7	801.4
52.5°	904.4	892.7	881.1	869.4	857.7	841.8	821.8	801.8	781.7	761.6	746.1
55°	824.9	812.7	800.5	788.2	776.0	760.0	740.1	720.3	700.4	680.5	664.7
57.5°	746.2	733.6	720.8	708.2	695.4	679.3	659.8	640.2	620.6	601.1	585.0
60°	690.2	678.0	665.7	653.5	641.3	625.4	605.9	586.3	566.7	547.2	531.3
62.5°	639.6	626.9	614.2	601.5	588.8	572.4	552.3	532.3	512.2	492.2	477.5
65°	560.9	547.8	534.7	521.5	508.4	492.1	472.5	453.0	433.4	413.8	400.7
67.5°	479.2	466.7	454.1	441.5	429.0	413.5	395.4	377.3	359.1	341.0	329.7
70°	427.6	414.7	401.9	389.1	376.3	361.1	343.7	326.3	308.9	291.4	281.4
72.5°	372.6	361.0	349.4	337.8	326.1	312.1	295.7	279.2	262.8	246.3	237.7
75°	298.3	287.1	275.7	264.4	253.1	240.3	225.9	211.5	197.3	182.9	175.8
77.5°	223.0	213.4	203.8	194.2	184.6	174.0	162.4	150.8	139.2	127.6	123.5
80°	174.6	165.7	156.9	148.0	139.1	130.2	121.0	111.8	102.6	93.5	92.6
82.5°	132.9	124.7	116.6	108.4	100.3	93.6	88.3	83.1	77.8	72.6	71.9
85°	74.2	68.1	62.0	55.9	49.8	46.3	45.4	44.4	43.6	42.6	42.0
87.5°	25.5	23.7	21.9	20.1	18.3	17.3	17.1	17.0	16.9	16.7	16.5
90°	0.9	1.6	2.4	3.2	3.9	4.6	5.1	5.6	6.1	6.7	7.1
92.5°	6.5	7.4	8.2	9.0	9.9	10.5	10.9	11.3	11.7	12.1	12.3
95°	18.3	18.9	19.5	20.1	20.7	21.3	21.7	22.2	22.6	23.2	23.3
97.5°	31.9	32.4	32.9	33.3	33.8	34.4	34.9	35.5	36.0	36.6	36.9
100°	42.6	42.9	43.1	43.4	43.7	44.1	44.7	45.4	46.0	46.6	46.7
102.5°	53.8	53.9	54.0	54.2	54.2	54.6	55.1	55.7	56.2	56.7	57.0
105°	70.9	70.9	71.0	71.1	71.1	71.3	71.6	71.9	72.2	72.4	72.6
107.5°	88.9	88.9	89.0	89.1	89.2	89.2	89.3	89.3	89.4	89.4	89.5
110°	101.0	101.2	101.3	101.4	101.5	101.6	101.5	101.4	101.3	101.3	101.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	113.7	113.7	113.7	113.7	113.7	113.7	113.6	113.5	113.4	113.2	113.2
115°	132.7	132.7	132.7	132.7	132.7	132.6	132.4	132.3	132.2	132.1	132.0
117.5°	150.5	150.6	150.7	150.7	150.8	150.8	150.7	150.6	150.4	150.3	150.2
120°	162.5	162.7	163.0	163.2	163.6	163.6	163.4	163.2	163.0	162.8	162.5
122.5°	174.9	175.0	175.1	175.2	175.3	175.3	175.2	175.1	175.0	175.0	174.7
125°	193.2	193.2	193.2	193.2	193.2	193.1	193.1	193.0	193.0	192.9	192.8
127.5°	209.8	210.0	210.3	210.4	210.6	210.7	210.6	210.4	210.3	210.3	210.1
130°	221.5	221.7	221.9	222.1	222.3	222.4	222.4	222.4	222.4	222.4	222.3
132.5°	233.4	233.6	233.7	233.8	234.0	234.0	234.0	233.9	233.9	233.8	233.7
135°	249.2	249.6	249.9	250.4	250.8	251.0	251.0	251.0	251.0	251.0	250.9
137.5°	266.3	266.6	266.7	266.9	267.1	267.3	267.3	267.4	267.6	267.7	267.5
140°	277.8	277.9	278.0	278.2	278.4	278.4	278.4	278.4	278.4	278.4	278.4
142.5°	288.3	288.3	288.5	288.6	288.8	288.9	288.8	288.7	288.7	288.6	288.6
145°	302.7	303.0	303.2	303.5	303.8	304.0	304.0	304.1	304.2	304.3	304.2
147.5°	317.1	317.5	317.7	318.1	318.4	318.5	318.5	318.4	318.4	318.3	318.2
150°	325.9	326.1	326.4	326.7	326.9	327.1	327.1	327.1	327.1	327.1	327.1
152.5°	334.2	334.3	334.4	334.6	334.8	334.8	334.9	335.0	335.0	335.1	335.3
155°	346.8	346.8	346.8	346.8	346.8	346.8	346.7	346.6	346.6	346.6	346.8
157.5°	357.6	357.4	357.3	357.2	357.1	357.0	357.0	357.0	357.0	357.0	357.1
160°	363.9	363.8	363.8	363.7	363.6	363.5	363.5	363.4	363.3	363.3	363.5
162.5°	369.7	369.5	369.4	369.2	369.0	368.9	368.9	368.8	368.7	368.6	369.0
165°	377.5	377.4	377.2	376.9	376.8	376.6	376.4	376.3	376.2	376.1	376.4
167.5°	383.6	383.3	383.1	382.7	382.5	382.3	382.4	382.4	382.4	382.4	382.8
170°	387.0	386.7	386.3	386.0	385.6	385.6	385.6	385.6	385.7	385.8	386.2
172.5°	389.4	389.2	388.8	388.6	388.3	388.1	388.1	388.2	388.2	388.2	388.7
175°	392.8	392.4	392.1	391.8	391.4	391.2	391.2	391.1	391.1	391.0	391.4
177.5°	393.9	393.6	393.3	393.0	392.8	392.7	392.7	392.7	392.7	392.7	393.0
180°	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1788.8	1791.6	1794.2	1795.4	1795.2	1794.9	1794.7	1794.5
5°	1776.9	1779.9	1783.0	1784.3	1783.6	1783.0	1782.4	1781.8
7.5°	1753.3	1755.2	1757.2	1757.6	1756.7	1755.8	1754.7	1753.8
10°	1732.0	1733.2	1734.5	1734.5	1733.2	1732.0	1730.8	1729.6
12.5°	1705.7	1706.5	1707.2	1706.7	1705.0	1703.3	1701.6	1699.9
15°	1659.6	1659.0	1658.4	1657.0	1654.8	1652.7	1650.6	1648.5
17.5°	1604.0	1602.3	1600.6	1598.2	1594.9	1591.6	1588.5	1585.2
20°	1565.2	1562.7	1560.3	1557.1	1553.2	1549.2	1545.2	1541.2
22.5°	1522.1	1518.4	1514.8	1511.3	1508.0	1504.8	1501.6	1498.3
25°	1452.4	1447.3	1442.1	1438.0	1434.9	1431.8	1428.7	1425.7
27.5°	1381.6	1375.1	1368.7	1363.3	1358.9	1354.5	1350.1	1345.7
30°	1330.7	1323.1	1315.4	1309.2	1304.2	1299.4	1294.5	1289.6
32.5°	1278.8	1269.9	1261.0	1254.3	1249.7	1245.0	1240.4	1235.7
35°	1201.4	1191.1	1180.7	1172.8	1167.3	1161.7	1156.2	1150.7
37.5°	1118.4	1106.8	1095.3	1086.7	1081.2	1075.6	1070.2	1064.7
40°	1063.2	1050.4	1037.6	1028.4	1022.9	1017.4	1011.9	1006.4
42.5°	1008.8	995.7	982.7	973.3	967.5	961.8	956.1	950.3
45°	925.6	910.6	895.6	885.4	879.9	874.4	868.9	863.4
47.5°	841.7	826.2	810.7	799.9	793.8	787.8	781.7	775.7
50°	786.1	770.9	755.5	745.0	739.3	733.4	727.6	721.8
52.5°	730.6	715.1	699.6	688.8	682.8	676.7	670.6	664.6
55°	648.8	632.9	617.0	606.1	600.4	594.5	588.8	582.9
57.5°	568.9	552.7	536.6	526.3	521.9	517.5	513.1	508.7
60°	515.4	499.6	483.6	473.3	468.4	463.5	458.6	453.7
62.5°	462.9	448.2	433.5	424.2	420.3	416.5	412.5	408.6
65°	387.5	374.4	361.3	352.8	349.2	345.5	341.9	338.2
67.5°	318.4	307.0	295.8	288.1	284.0	280.0	276.0	271.9
70°	271.3	261.2	251.2	244.6	241.5	238.5	235.4	232.4
72.5°	229.1	220.5	211.9	206.2	203.4	200.6	197.8	194.9
75°	168.8	161.8	154.7	150.3	148.5	146.6	144.8	143.0
77.5°	119.4	115.3	111.2	108.9	108.3	107.8	107.3	106.7
80°	91.7	90.7	89.8	89.2	88.9	88.6	88.3	88.0
82.5°	71.3	70.6	69.9	69.4	69.1	68.8	68.5	68.2
85°	41.4	40.8	40.2	39.9	39.9	39.9	39.9	39.9
87.5°	16.4	16.3	16.1	16.1	16.4	16.7	17.0	17.2
90°	7.5	7.9	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	12.6	12.7	13.0	13.2	13.3	13.3	13.4	13.5
95°	23.5	23.8	23.9	24.0	24.0	24.0	24.0	24.0
97.5°	37.0	37.3	37.5	37.6	37.6	37.6	37.6	37.6
100°	46.8	46.9	47.1	47.2	47.2	47.2	47.2	47.2
102.5°	57.2	57.3	57.5	57.7	57.7	57.8	57.8	57.9
105°	72.8	73.0	73.2	73.4	73.6	73.9	74.0	74.2
107.5°	89.8	90.0	90.1	90.2	90.2	90.2	90.2	90.1
110°	101.1	100.9	100.7	100.8	101.0	101.3	101.4	101.6



TEST NUMBER: P332989-935

CATALOG NUMBER: S124RDIP-S1195D365U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	113.2	113.1	113.1	113.1	113.2	113.2	113.2	113.3
115°	131.9	131.8	131.7	131.7	131.6	131.6	131.5	131.5
117.5°	149.9	149.6	149.5	149.3	149.1	149.0	148.9	148.7
120°	162.1	161.8	161.4	161.4	161.4	161.6	161.7	161.9
122.5°	174.5	174.3	174.0	173.7	173.6	173.3	173.1	172.8
125°	192.6	192.5	192.3	192.2	192.1	191.9	191.8	191.7
127.5°	210.0	209.8	209.7	209.6	209.5	209.4	209.2	209.1
130°	222.1	222.0	221.9	221.6	221.4	221.1	220.8	220.6
132.5°	233.6	233.4	233.3	233.2	233.1	233.0	232.9	232.7
135°	250.7	250.6	250.5	250.3	250.1	249.9	249.7	249.5
137.5°	267.3	267.2	267.0	266.9	266.9	267.0	267.0	267.1
140°	278.3	278.2	278.1	278.0	278.0	277.9	277.8	277.8
142.5°	288.6	288.6	288.5	288.5	288.5	288.5	288.5	288.5
145°	304.1	304.0	304.0	303.8	303.7	303.4	303.2	303.1
147.5°	318.2	318.1	318.1	318.1	318.0	317.9	317.8	317.8
150°	327.1	327.1	327.1	327.0	327.0	326.9	326.8	326.7
152.5°	335.4	335.6	335.8	335.7	335.5	335.4	335.2	335.0
155°	347.1	347.3	347.6	347.6	347.3	347.1	346.8	346.6
157.5°	357.3	357.6	357.7	357.7	357.5	357.3	357.1	356.8
160°	363.7	363.9	364.1	364.0	363.7	363.3	363.0	362.7
162.5°	369.4	369.7	370.1	370.1	369.8	369.5	369.1	368.8
165°	376.9	377.3	377.6	377.7	377.5	377.2	376.9	376.7
167.5°	383.2	383.6	384.0	384.0	383.6	383.1	382.7	382.3
170°	386.6	387.0	387.4	387.4	386.9	386.4	386.0	385.5
172.5°	389.2	389.6	390.0	390.0	389.6	389.1	388.7	388.1
175°	391.9	392.4	392.9	392.9	392.4	391.9	391.4	391.0
177.5°	393.4	393.8	394.2	394.2	393.7	393.3	392.9	392.4
180°	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4

(END OF REPORT)