

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: P334102

Luminaire Tested: **S124DS-S795D840-4F0-1E-UDD-A**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334102
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DS-S795D840-4F0-1E-UDD-A
Description: DEFINE 4 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 795 LUMENS PER FOOT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3363.5 lumens
Efficiency: N/A
Efficacy: 127.9 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 4' x L: 0.33' x H: 0')
CIE Type: Direct

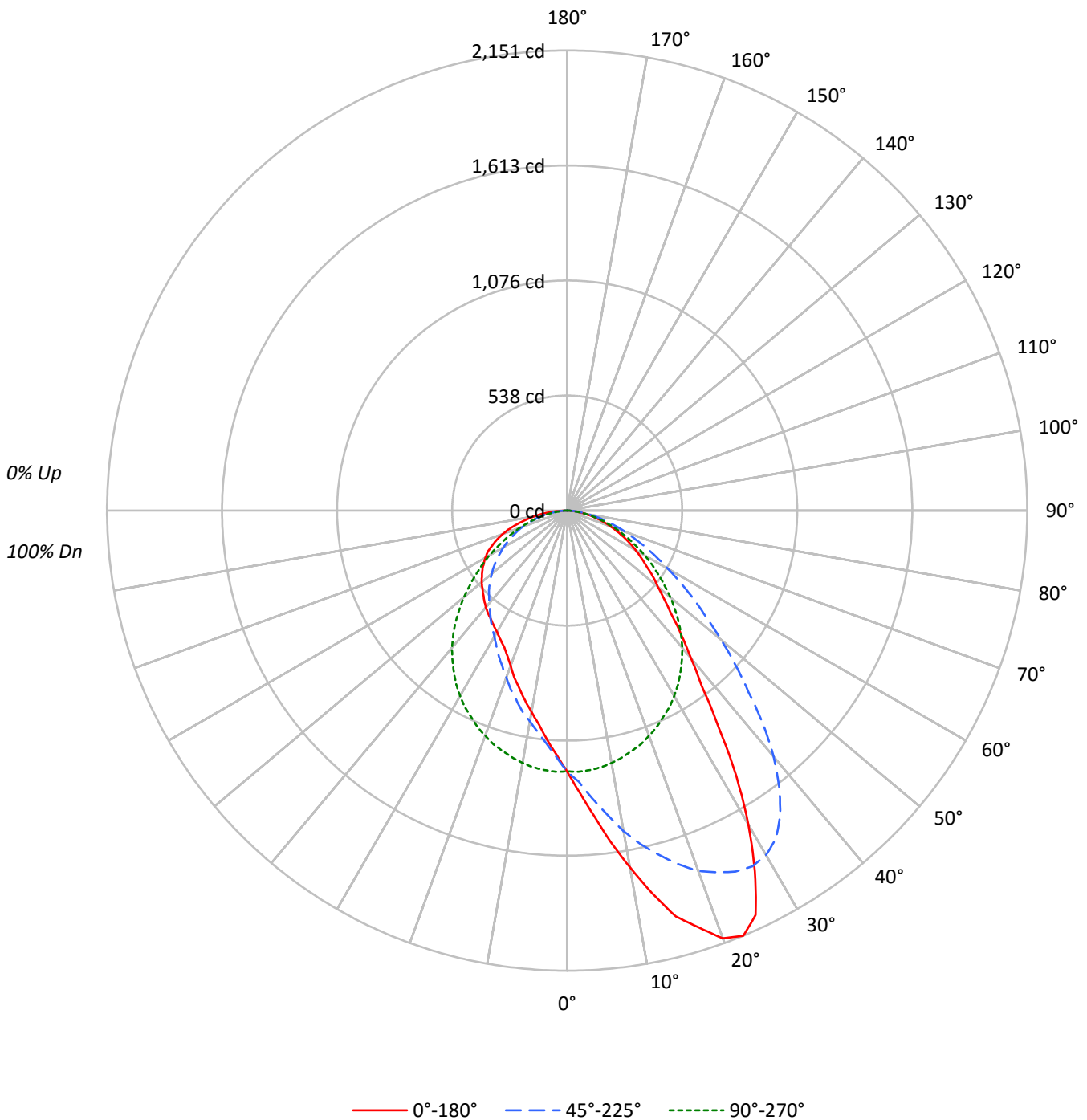
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9840	9840	9840
5°	11588	9866	8708
10°	13874	9822	7839
15°	16416	9723	7199
20°	18280	9621	6628
25°	18576	9472	6233
30°	15806	9329	6110
35°	12153	9096	6111
40°	9472	8823	6226
45°	7898	8411	6330
50°	6950	7909	6545
55°	6367	7306	6808
60°	5968	6767	7125
65°	5555	6164	7389
70°	5077	5566	7556
75°	4535	4897	7464
80°	3803	4012	7229
85°	2807	2899	6919



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.6	3.5
10°-20°	366.2	10.9
20°-30°	581.7	17.3
30°-40°	646.3	19.2
40°-50°	587.8	17.5
50°-60°	480.3	14.3
60°-70°	342.9	10.2
70°-80°	188.6	5.6
80°-90°	51.0	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1066.5	31.7
0°-40°	1712.8	50.9
0°-60°	2781.0	82.7
0°-90°	3363.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3363.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1219	1219	1219	1219	1219	
5°	1430	1351	1217	1094	1074	145
15°	1964	1667	1163	917	861	555
25°	2085	1862	1063	754	700	925
35°	1233	1736	923	623	620	781
45°	692	1199	737	516	554	544
55°	452	722	519	403	484	408
65°	291	402	323	280	387	288
75°	145	187	157	156	239	154
85°	30	39	31	44	75	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9
2.5°	1316.9	1316.4	1311.3	1310.3	1306.8	1302.2	1301.2	1293.1	1277.0	1269.4	1267.4
5°	1430.0	1440.1	1426.9	1424.4	1422.9	1406.2	1397.7	1387.6	1364.3	1350.7	1340.1
7.5°	1562.3	1562.8	1557.2	1551.7	1542.1	1527.9	1508.7	1486.5	1459.8	1432.5	1413.3
10°	1692.5	1696.6	1690.0	1689.0	1663.3	1647.1	1614.8	1587.5	1556.2	1521.4	1489.6
12.5°	1829.9	1821.8	1819.3	1792.5	1793.0	1760.2	1721.3	1693.0	1640.5	1599.1	1554.2
15°	1964.2	1953.1	1946.0	1916.2	1901.6	1860.7	1820.8	1790.0	1726.9	1666.8	1621.3
17.5°	2042.0	2055.6	2037.4	2025.3	1985.4	1958.6	1918.8	1855.6	1808.7	1733.9	1681.9
20°	2127.8	2128.8	2119.7	2107.1	2077.3	2040.9	1996.5	1925.8	1866.7	1792.5	1713.8
22.5°	2151.0	2151.0	2148.5	2136.9	2116.2	2088.4	2043.5	1987.4	1912.7	1830.4	1751.6
25°	2085.4	2083.4	2087.9	2101.0	2092.5	2083.4	2057.6	2013.7	1947.0	1861.7	1776.9
27.5°	1899.6	1912.7	1940.0	1972.3	1995.5	2016.2	2014.7	1996.0	1948.5	1874.8	1784.4
30°	1695.6	1712.7	1731.9	1764.2	1826.9	1862.7	1902.1	1931.9	1915.2	1859.2	1776.4
32.5°	1471.4	1472.4	1503.2	1541.1	1597.1	1674.4	1742.5	1810.7	1840.0	1817.3	1751.6
35°	1233.1	1240.1	1270.9	1307.3	1377.5	1461.8	1555.7	1639.5	1708.7	1736.5	1701.1
37.5°	1033.1	1055.3	1078.5	1119.9	1184.1	1260.3	1361.3	1465.8	1567.3	1628.9	1635.5
40°	898.8	911.4	927.1	956.9	1009.4	1084.1	1167.9	1292.1	1401.7	1500.7	1533.0
42.5°	792.7	798.8	806.9	833.1	870.0	944.2	1019.0	1124.5	1234.6	1357.8	1417.4
45°	691.8	699.3	715.5	731.1	761.4	812.9	884.1	974.0	1084.6	1198.7	1298.7
47.5°	616.0	621.1	631.2	648.3	675.6	710.4	771.0	847.3	955.3	1065.9	1173.0
50°	553.4	557.4	565.0	580.2	599.9	630.2	677.6	747.8	828.1	939.7	1044.2
52.5°	503.9	504.9	510.0	519.1	533.7	558.0	594.8	649.9	723.1	819.5	923.5
55°	452.4	454.4	459.5	467.1	480.7	496.9	526.6	570.1	635.2	721.6	811.9
57.5°	410.0	412.0	416.1	419.1	431.2	444.8	469.1	500.4	551.4	628.1	710.4
60°	369.6	368.6	373.7	376.2	383.8	394.9	412.5	442.3	485.2	544.3	618.5
62.5°	330.2	328.7	332.8	336.3	339.8	348.9	362.5	384.3	417.1	469.1	530.7
65°	290.8	288.8	291.3	295.4	299.4	304.5	315.1	335.8	363.6	401.9	450.9
67.5°	250.4	253.0	253.0	255.5	258.0	265.1	272.7	288.8	308.5	339.8	383.2
70°	215.1	215.6	217.6	217.6	219.1	225.2	231.3	239.8	259.0	287.3	321.1
72.5°	179.8	182.3	180.8	182.8	183.8	187.3	191.4	199.4	215.1	234.3	261.6
75°	145.4	146.9	146.9	147.4	149.0	150.5	154.0	160.1	171.7	187.3	207.0
77.5°	112.1	112.1	113.1	115.1	115.1	117.6	120.7	125.2	131.8	143.4	156.0
80°	81.8	82.8	82.3	83.3	83.3	85.3	86.3	92.4	94.9	102.0	111.6
82.5°	54.5	55.5	55.5	57.1	58.1	58.1	59.6	61.1	63.6	69.7	72.2
85°	30.3	31.3	30.3	31.3	32.8	33.3	34.8	35.3	37.4	38.9	42.4
87.5°	11.1	12.6	12.6	13.1	14.1	14.6	15.1	14.6	16.7	17.2	19.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9
2.5°	1267.9	1260.8	1255.8	1251.7	1240.6	1234.1	1229.0	1221.9	1213.9	1205.3	1194.7
5°	1329.5	1312.3	1299.7	1280.5	1262.3	1247.2	1231.5	1217.4	1200.2	1181.5	1167.9
7.5°	1392.6	1368.9	1337.1	1312.3	1282.5	1256.8	1234.1	1210.3	1185.1	1160.8	1138.1
10°	1452.2	1419.4	1383.0	1340.1	1299.7	1263.9	1230.5	1198.2	1166.9	1135.6	1108.8
12.5°	1516.3	1473.4	1415.3	1363.3	1316.9	1265.9	1224.0	1182.6	1143.2	1109.8	1077.5
15°	1572.4	1513.3	1451.2	1384.0	1324.4	1268.4	1213.4	1163.4	1121.0	1077.5	1047.2
17.5°	1607.7	1534.5	1467.8	1397.7	1329.0	1258.8	1201.7	1145.7	1093.2	1050.8	1012.9
20°	1642.6	1569.8	1481.5	1411.3	1325.5	1252.7	1184.1	1119.9	1064.4	1018.5	979.1
22.5°	1672.9	1586.0	1497.6	1399.7	1314.3	1236.1	1159.3	1094.7	1037.6	988.7	951.3
25°	1679.9	1583.5	1487.5	1395.6	1298.7	1207.3	1139.1	1063.4	1002.8	951.8	911.4
27.5°	1682.4	1580.4	1473.9	1373.9	1274.0	1190.6	1101.8	1035.6	973.0	919.0	880.6
30°	1676.9	1569.3	1452.7	1342.1	1241.6	1149.2	1074.5	1000.8	936.7	883.1	842.7
32.5°	1659.2	1546.1	1425.4	1306.8	1201.7	1111.9	1034.1	964.9	902.8	850.3	807.4
35°	1621.9	1511.3	1383.5	1261.8	1155.3	1063.9	994.2	923.0	860.4	810.4	769.5
37.5°	1571.9	1468.9	1339.1	1212.4	1109.8	1016.9	946.8	881.1	824.6	773.1	730.6
40°	1502.2	1414.3	1284.1	1161.4	1048.2	960.9	896.3	837.2	781.1	733.2	693.3
42.5°	1421.9	1348.2	1230.5	1098.7	990.7	902.8	840.2	788.7	736.7	693.3	653.4
45°	1323.4	1272.9	1159.8	1039.7	926.1	843.2	783.2	736.7	692.3	648.8	615.5
47.5°	1213.9	1185.6	1087.1	972.0	862.9	780.1	728.1	683.7	643.3	605.4	575.6
50°	1103.3	1091.2	1008.9	898.8	795.8	719.0	666.5	629.7	596.3	564.0	536.2
52.5°	994.2	996.7	924.5	826.1	732.7	659.4	607.4	573.6	545.8	521.1	496.9
55°	882.6	896.8	838.7	748.8	663.5	596.8	549.9	519.1	498.9	477.2	458.5
57.5°	780.1	803.9	753.4	671.1	598.9	535.2	493.8	470.1	447.9	433.7	419.1
60°	680.1	702.4	665.0	598.3	531.2	478.7	439.8	419.1	400.4	391.3	381.7
62.5°	591.3	610.5	585.2	524.6	468.6	418.6	387.3	367.6	356.5	346.4	340.8
65°	507.5	524.1	500.4	455.5	405.5	365.1	338.3	322.7	310.5	306.5	299.4
67.5°	424.7	439.8	427.2	387.8	345.4	313.6	292.4	275.7	268.6	264.6	260.0
70°	352.4	367.6	354.0	320.6	289.8	264.1	244.4	235.8	228.2	226.7	219.6
72.5°	291.3	300.4	286.8	262.6	237.3	216.6	202.5	193.4	190.4	187.3	184.3
75°	227.7	236.8	227.7	207.5	188.8	173.7	160.6	157.0	152.5	151.0	148.5
77.5°	170.7	179.3	172.2	158.5	143.9	131.3	123.7	118.7	118.2	115.1	116.1
80°	123.2	128.3	121.7	113.1	102.0	93.9	88.9	86.3	83.3	82.3	84.3
82.5°	79.8	81.3	78.8	73.7	66.1	61.6	58.6	55.5	55.5	56.0	55.5
85°	45.9	45.4	44.9	39.9	37.4	33.8	31.8	31.3	30.8	31.8	32.8
87.5°	19.2	19.7	19.2	17.2	15.7	14.1	13.6	13.1	13.6	14.1	14.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9	1218.9
2.5°	1189.6	1185.1	1178.5	1169.4	1161.9	1153.8	1151.8	1148.7	1154.8	1149.7	1148.2
5°	1156.3	1145.7	1132.1	1116.4	1107.3	1094.2	1091.7	1086.6	1081.6	1081.1	1076.0
7.5°	1121.5	1106.8	1089.7	1073.5	1059.4	1045.2	1036.1	1035.1	1027.0	1023.0	1018.0
10°	1088.1	1068.9	1048.2	1033.1	1015.9	1000.8	990.2	984.1	979.1	973.5	968.5
12.5°	1048.8	1028.0	1011.9	995.2	974.0	963.4	944.2	932.6	932.6	934.1	919.0
15°	1020.0	999.8	973.5	950.3	939.2	917.0	907.4	895.3	887.7	880.1	874.0
17.5°	984.6	959.9	939.7	913.4	892.7	876.1	862.9	856.4	844.3	833.1	825.6
20°	951.8	925.0	903.3	875.1	851.8	830.1	819.5	809.4	800.8	791.7	783.2
22.5°	918.5	890.2	862.4	835.2	814.0	790.7	780.6	766.0	757.9	753.9	745.3
25°	883.1	852.8	822.5	796.3	774.1	753.9	740.2	729.6	720.5	716.5	710.9
27.5°	844.8	815.0	786.2	755.9	730.1	715.5	704.4	695.8	690.2	684.2	681.7
30°	808.4	777.1	745.8	718.0	694.8	680.1	670.0	664.5	660.5	657.9	655.4
32.5°	771.5	740.7	707.4	682.7	662.5	649.9	642.8	637.2	635.7	635.2	634.7
35°	731.7	700.3	670.0	647.3	627.6	622.6	616.0	613.0	612.0	615.5	617.0
37.5°	693.3	664.0	635.7	613.0	599.9	591.8	589.3	588.8	592.3	595.3	598.9
40°	656.4	628.1	601.9	582.7	570.6	566.0	565.0	567.5	571.6	575.1	579.2
42.5°	620.6	592.8	569.6	551.9	544.3	540.3	541.3	543.8	549.9	554.4	561.0
45°	583.2	560.0	536.7	522.1	515.0	516.0	516.0	520.6	526.1	532.7	539.3
47.5°	548.4	524.6	504.9	492.3	488.8	487.3	489.8	495.8	503.4	511.0	520.1
50°	513.0	490.8	474.1	463.0	459.0	460.5	464.5	470.1	479.7	489.8	499.4
52.5°	477.2	457.5	442.3	432.2	429.7	432.7	436.8	446.4	454.4	465.6	477.7
55°	439.8	422.6	410.5	402.9	401.9	403.4	408.0	417.6	429.7	443.3	454.4
57.5°	402.9	388.3	376.7	371.1	371.6	372.6	379.7	391.3	403.4	418.1	432.2
60°	365.6	352.4	343.4	339.3	339.8	342.9	351.9	362.5	378.7	392.8	408.0
62.5°	330.2	319.1	310.5	307.0	306.0	313.6	322.1	333.3	349.4	365.6	382.2
65°	291.9	282.8	275.7	273.7	275.2	280.2	291.3	306.0	319.6	336.3	353.5
67.5°	254.5	246.9	241.9	242.9	244.4	251.5	261.1	273.7	288.8	306.0	323.7
70°	219.1	212.1	208.0	208.5	211.6	220.7	228.7	241.4	258.0	275.7	289.8
72.5°	182.8	178.7	175.2	177.7	180.8	186.3	196.9	209.5	223.7	239.8	255.0
75°	145.9	145.9	143.9	145.4	150.0	156.0	163.6	176.7	191.4	204.5	216.6
77.5°	114.6	113.1	114.1	115.6	118.7	126.2	134.8	144.4	156.0	169.7	179.8
80°	82.8	83.3	85.8	88.9	89.9	95.4	104.5	113.1	121.7	132.8	142.4
82.5°	57.1	57.6	58.6	62.6	63.6	69.7	74.7	83.3	90.9	97.5	105.0
85°	33.8	33.8	36.4	37.9	40.4	44.4	48.0	53.0	60.1	65.1	72.7
87.5°	16.2	16.2	18.2	19.2	20.7	23.2	24.2	29.8	31.8	34.3	38.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P334102

CATALOG NUMBER: S124DS-S795D840-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1218.9	1218.9	1218.9	1218.9
2.5°	1147.2	1146.2	1142.7	1142.2
5°	1073.0	1070.5	1068.9	1074.5
7.5°	1016.9	1014.9	1010.4	1008.9
10°	963.4	961.4	957.4	956.3
12.5°	911.9	907.4	907.4	908.9
15°	867.5	865.5	859.9	861.4
17.5°	822.0	820.0	812.4	820.0
20°	779.6	775.6	772.0	771.5
22.5°	739.2	735.7	736.2	732.2
25°	706.9	703.4	702.4	699.8
27.5°	680.7	678.6	676.6	677.6
30°	656.9	656.4	655.4	655.4
32.5°	637.2	637.2	638.2	638.2
35°	619.1	620.6	621.6	620.1
37.5°	602.9	603.9	605.4	606.9
40°	583.7	587.2	588.2	590.8
42.5°	565.5	569.6	572.6	572.6
45°	546.8	550.9	554.4	554.4
47.5°	527.7	533.2	536.7	537.3
50°	508.0	515.0	518.6	521.1
52.5°	488.8	495.8	500.9	501.9
55°	466.1	476.2	481.7	483.7
57.5°	445.9	454.9	461.0	462.5
60°	421.6	431.7	439.8	441.3
62.5°	396.9	407.5	414.6	419.1
65°	367.6	378.2	385.3	386.8
67.5°	336.8	347.9	352.4	355.5
70°	304.0	312.6	317.6	320.1
72.5°	266.6	275.7	281.8	281.8
75°	228.2	236.3	239.3	239.3
77.5°	188.3	192.9	196.9	197.9
80°	150.0	152.5	155.5	155.5
82.5°	110.6	112.6	115.6	115.1
85°	71.7	76.2	75.7	74.7
87.5°	40.4	40.9	42.4	43.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)