

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: P331784

Luminaire Tested: **S122RDIW-S290D1440U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331784
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S290D1440U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6034.8 lumens
Efficiency: N/A
Efficacy: 113.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

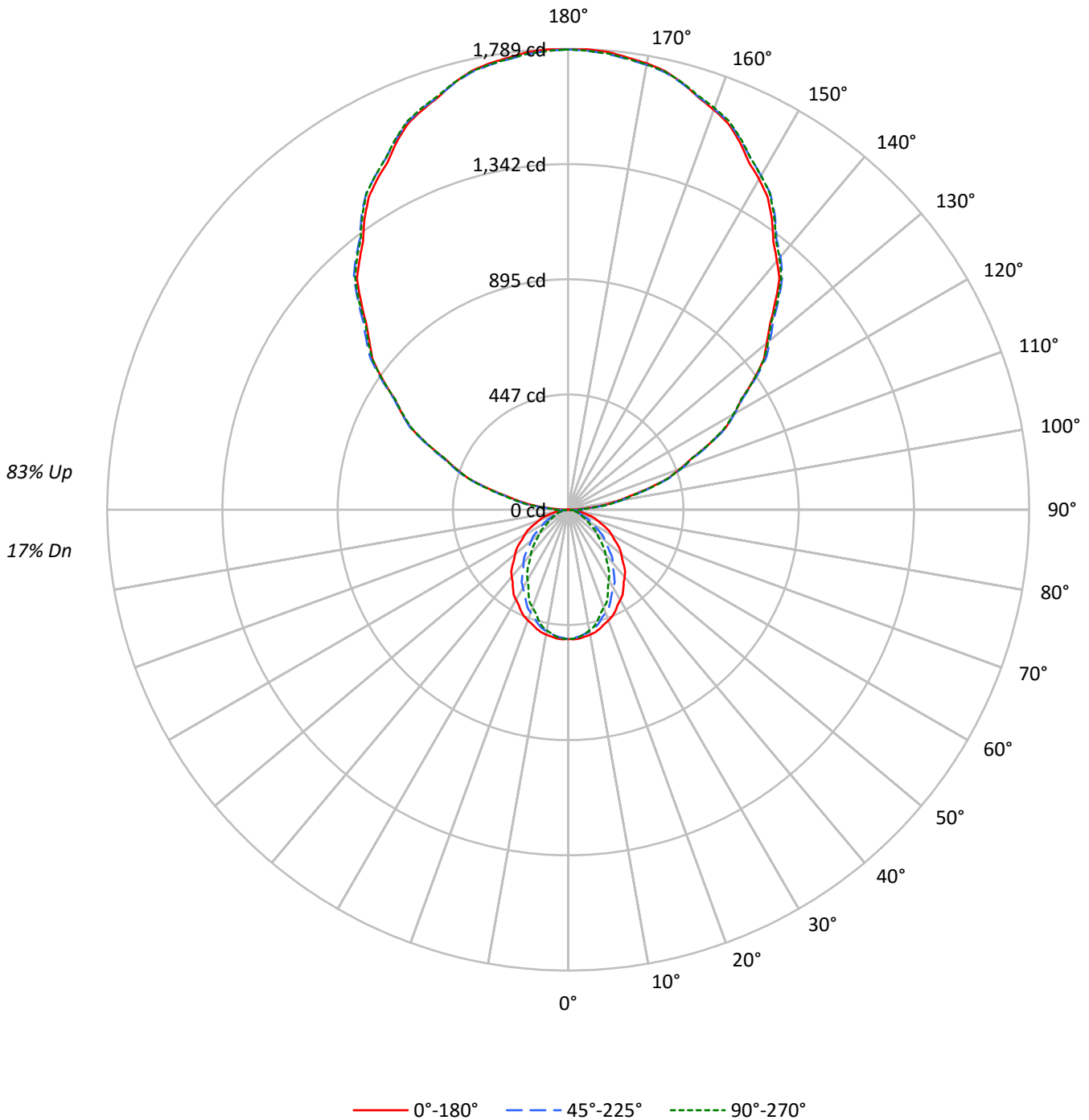
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17
1	91	87	83	80	80	76	73	71	57	55	53	39	38	37	23	23	22	15
2	83	76	70	65	72	67	62	58	50	47	44	35	33	31	21	20	19	13
3	75	67	60	54	66	59	53	49	44	41	37	31	29	27	18	17	16	11
4	69	59	51	46	60	52	46	41	39	35	32	27	25	23	16	15	14	9
5	63	52	45	39	55	46	40	35	35	31	27	25	22	20	15	13	12	8
6	58	47	39	34	51	41	35	30	32	27	24	22	19	17	13	12	11	7
7	54	42	35	29	47	37	31	26	28	24	21	20	17	15	12	11	10	7
8	50	38	31	26	43	34	28	23	26	21	18	18	16	13	11	10	9	6
9	46	35	27	23	40	31	25	21	24	19	16	17	14	12	10	9	8	5
10	43	31	25	20	38	28	22	18	22	17	15	15	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8105	8105	8105
5°	8136	8003	8047
10°	8073	7873	7806
15°	7980	7639	7418
20°	7852	7306	6940
25°	7721	6928	6474
30°	7538	6538	5878
35°	7360	6116	5355
40°	7181	5678	4749
45°	6971	5186	4201
50°	6754	4690	3662
55°	6533	4155	3147
60°	6278	3594	2612
65°	5987	3018	2376
70°	5641	2488	2186
75°	5215	2264	2040
80°	4603	2027	1860
85°	3612	1593	1593



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	0.8
10°-20°	129.0	2.1
20°-30°	181.2	3.0
30°-40°	197.6	3.3
40°-50°	181.6	3.0
50°-60°	142.7	2.4
60°-70°	93.0	1.5
70°-80°	48.0	0.8
80°-90°	19.6	0.3
90°-100°	113.2	1.9
100°-110°	351.6	5.8
110°-120°	601.0	10.0
120°-130°	790.3	13.1
130°-140°	887.0	14.7
140°-150°	869.7	14.4
150°-160°	729.5	12.1
160°-170°	483.8	8.0
170°-180°	169.1	2.8
0°-30°	357.2	5.9
0°-40°	554.7	9.2
0°-60°	879.0	14.6
0°-90°	1039.6	17.2
90°-120°	1065.7	17.7
90°-150°	3612.8	59.9
90°-180°	4995.0	82.8
0°-180°	6034.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	502	502	502	502	502	
5°	502	500	494	498	496	48
15°	477	472	457	449	444	134
25°	433	418	389	371	363	199
35°	373	349	310	283	272	234
45°	305	274	227	196	184	236
55°	232	196	148	121	112	207
65°	157	120	79	64	62	155
75°	84	53	36	33	33	88
85°	20	10	9	9	9	23
90°	2	20	53	50	51	5
95°	78	93	96	96	94	90
105°	324	329	332	334	335	342
115°	603	611	609	607	603	596
125°	877	890	886	882	880	784
135°	1135	1151	1155	1153	1149	877
145°	1378	1388	1398	1399	1393	860
155°	1575	1580	1584	1591	1588	725
165°	1714	1713	1713	1722	1716	483
175°	1783	1779	1776	1785	1777	169
180°	1786	1786	1786	1786	1786	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	503.8	503.4	503.0	502.6	502.2	501.5	500.6	499.8	498.9	498.0	498.8
5°	502.0	501.5	501.0	500.5	500.0	499.0	497.7	496.4	495.1	493.8	494.7
7.5°	496.8	496.2	495.5	494.9	494.3	493.2	491.7	490.1	488.6	487.1	487.3
10°	492.4	491.7	491.0	490.3	489.6	488.2	486.2	484.2	482.2	480.2	479.9
12.5°	487.0	486.1	485.2	484.4	483.5	481.8	479.2	476.6	474.0	471.4	470.9
15°	477.4	476.3	475.2	474.1	473.0	470.7	467.3	463.9	460.4	457.0	455.1
17.5°	465.7	464.0	462.3	460.6	458.9	455.9	451.5	447.1	442.7	438.3	436.0
20°	457.0	455.0	453.0	450.9	448.9	445.4	440.3	435.3	430.3	425.2	422.7
22.5°	447.6	445.3	443.0	440.8	438.5	434.5	428.8	423.1	417.5	411.8	408.5
25°	433.4	430.1	426.9	423.7	420.5	415.5	408.8	402.2	395.5	388.9	384.7
27.5°	416.3	412.8	409.3	405.8	402.2	396.7	389.2	381.7	374.2	366.7	361.9
30°	404.3	400.5	396.6	392.8	389.0	383.0	374.9	366.9	358.8	350.7	345.6
32.5°	392.7	388.2	383.7	379.2	374.7	368.4	360.2	351.9	343.7	335.4	329.6
35°	373.4	368.3	363.1	358.0	352.8	345.8	336.9	328.0	319.2	310.3	303.9
37.5°	354.2	348.5	342.8	337.2	331.5	324.0	314.5	305.0	295.6	286.1	279.1
40°	340.7	334.7	328.6	322.5	316.5	308.6	298.8	289.0	279.2	269.4	262.2
42.5°	326.9	320.5	314.1	307.8	301.4	293.1	283.0	272.9	262.8	252.7	245.3
45°	305.3	298.5	291.7	285.0	278.2	269.5	258.9	248.3	237.7	227.1	220.0
47.5°	284.2	277.0	269.9	262.7	255.5	246.5	235.5	224.6	213.6	202.7	195.6
50°	268.9	261.8	254.6	247.4	240.3	231.1	220.0	208.9	197.8	186.7	179.7
52.5°	254.0	246.5	239.1	231.6	224.1	214.9	204.0	193.2	182.3	171.4	164.7
55°	232.1	224.3	216.4	208.5	200.6	191.3	180.3	169.4	158.5	147.6	141.6
57.5°	209.7	201.6	193.5	185.5	177.4	168.1	157.6	147.2	136.7	126.2	120.6
60°	194.4	186.4	178.3	170.2	162.1	152.9	142.5	132.1	121.7	111.3	106.1
62.5°	179.5	171.5	163.4	155.3	147.2	138.2	128.3	118.4	108.5	98.6	93.7
65°	156.7	148.5	140.4	132.2	124.0	115.4	106.3	97.2	88.1	79.0	75.6
67.5°	134.7	126.6	118.5	110.4	102.3	94.1	85.9	77.8	69.6	61.4	59.8
70°	119.5	111.6	103.7	95.9	88.0	80.6	73.6	66.6	59.7	52.7	51.7
72.5°	104.9	97.4	89.8	82.3	74.7	68.2	62.6	57.0	51.4	45.8	44.9
75°	83.6	76.5	69.5	62.4	55.3	50.1	46.6	43.2	39.8	36.3	35.6
77.5°	62.6	56.4	50.2	44.0	37.8	33.9	32.2	30.6	28.9	27.3	26.9
80°	49.5	44.4	39.2	34.1	28.9	25.8	24.8	23.8	22.8	21.8	21.4
82.5°	37.5	33.5	29.5	25.5	21.5	19.1	18.4	17.7	17.0	16.4	16.1
85°	19.5	17.4	15.3	13.2	11.1	9.8	9.5	9.2	8.9	8.6	8.6
87.5°	6.1	6.3	6.4	6.6	6.7	7.6	9.0	10.5	12.0	13.5	13.2
90°	1.5	5.5	9.5	13.6	17.6	23.3	30.7	38.0	45.4	52.8	52.1
92.5°	26.8	29.8	32.7	35.7	38.6	41.0	42.7	44.5	46.2	47.9	48.1
95°	78.4	81.7	85.1	88.4	91.8	93.8	94.5	95.1	95.8	96.5	96.5
97.5°	143.2	146.2	149.1	152.1	155.0	157.1	158.4	159.7	160.9	162.2	162.2
100°	191.5	194.1	196.8	199.5	202.2	204.0	205.0	206.0	207.0	208.0	208.0
102.5°	242.1	244.3	246.4	248.5	250.7	252.4	253.7	254.9	256.2	257.5	257.8
105°	324.1	325.1	326.1	327.1	328.1	329.0	329.7	330.3	331.0	331.7	332.3
107.5°	406.7	408.2	409.7	411.2	412.6	413.4	413.4	413.4	413.4	413.4	413.6
110°	459.8	461.8	463.8	465.8	467.8	468.9	468.9	468.9	468.9	468.9	468.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	517.7	519.7	521.7	523.7	525.7	526.6	526.3	526.1	525.8	525.5	524.7
115°	603.0	605.0	607.0	609.1	611.1	611.7	611.1	610.4	609.7	609.1	608.7
117.5°	688.1	690.7	693.4	696.1	698.8	699.2	697.3	695.4	693.5	691.7	690.9
120°	744.7	747.4	750.1	752.8	755.5	755.5	752.8	750.1	747.4	744.7	744.7
122.5°	796.6	799.8	803.0	806.2	809.5	810.1	808.3	806.4	804.5	802.6	801.8
125°	877.4	880.4	883.4	886.4	889.5	890.5	889.5	888.5	887.5	886.4	885.4
127.5°	956.1	959.9	963.7	967.6	971.4	972.7	971.5	970.3	969.1	967.9	966.6
130°	1005.5	1009.9	1014.3	1018.6	1023.0	1024.8	1024.1	1023.5	1022.8	1022.1	1021.5
132.5°	1061.0	1064.6	1068.1	1071.7	1075.2	1077.1	1077.2	1077.3	1077.5	1077.6	1076.1
135°	1135.2	1138.9	1142.6	1146.2	1149.9	1152.1	1152.8	1153.5	1154.1	1154.8	1154.5
137.5°	1213.3	1216.3	1219.3	1222.3	1225.3	1227.3	1228.2	1229.0	1229.9	1230.8	1230.5
140°	1260.3	1263.3	1266.4	1269.4	1272.4	1274.7	1276.4	1278.1	1279.8	1281.4	1281.4
142.5°	1308.6	1311.6	1314.6	1317.6	1320.6	1322.7	1323.8	1325.0	1326.1	1327.3	1327.5
145°	1377.9	1380.3	1382.6	1384.9	1387.3	1389.5	1391.5	1393.5	1395.5	1397.5	1397.8
147.5°	1439.7	1442.5	1445.3	1448.2	1451.0	1453.1	1454.4	1455.7	1457.1	1458.4	1459.2
150°	1481.9	1483.9	1486.0	1488.0	1490.0	1491.6	1493.0	1494.3	1495.7	1497.0	1498.0
152.5°	1519.3	1521.3	1523.3	1525.3	1527.4	1529.2	1530.8	1532.4	1534.0	1535.6	1536.9
155°	1575.4	1576.4	1577.4	1578.4	1579.4	1580.4	1581.4	1582.4	1583.4	1584.4	1586.1
157.5°	1623.3	1624.0	1624.7	1625.4	1626.0	1626.7	1627.3	1627.9	1628.5	1629.1	1631.3
160°	1652.3	1653.0	1653.6	1654.3	1655.0	1655.5	1655.8	1656.1	1656.5	1656.8	1658.8
162.5°	1678.8	1679.0	1679.1	1679.2	1679.4	1679.6	1679.9	1680.3	1680.6	1680.9	1683.2
165°	1714.1	1713.8	1713.4	1713.1	1712.8	1712.6	1712.6	1712.6	1712.6	1712.6	1714.9
167.5°	1743.6	1742.6	1741.6	1740.6	1739.6	1739.1	1739.0	1739.0	1738.9	1738.8	1741.2
170°	1759.3	1758.3	1757.3	1756.3	1755.3	1754.6	1754.3	1754.0	1753.6	1753.3	1755.6
172.5°	1770.2	1769.2	1768.2	1767.2	1766.2	1765.5	1765.2	1764.8	1764.5	1764.1	1766.5
175°	1783.4	1782.4	1781.4	1780.4	1779.4	1778.6	1777.9	1777.2	1776.6	1775.9	1778.3
177.5°	1788.9	1788.1	1787.3	1786.5	1785.7	1785.0	1784.4	1783.9	1783.4	1782.8	1784.4
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	499.6	500.4	501.2	501.5	501.4	501.2	501.0	500.9
5°	495.6	496.5	497.4	497.7	497.4	497.1	496.8	496.5
7.5°	487.6	487.9	488.1	488.0	487.5	486.9	486.4	485.9
10°	479.6	479.3	479.0	478.5	477.9	477.3	476.7	476.1
12.5°	470.4	469.8	469.3	468.5	467.5	466.5	465.5	464.5
15°	453.2	451.2	449.3	447.9	446.9	445.8	444.8	443.8
17.5°	433.7	431.4	429.2	427.2	425.4	423.7	421.9	420.2
20°	420.2	417.6	415.1	412.7	410.5	408.3	406.1	403.9
22.5°	405.3	402.0	398.8	396.3	394.6	393.0	391.3	389.7
25°	380.6	376.4	372.3	369.5	368.0	366.4	364.9	363.4
27.5°	357.0	352.2	347.4	343.8	341.4	339.0	336.6	334.2
30°	340.4	335.3	330.1	326.2	323.4	320.7	318.0	315.3
32.5°	323.7	317.8	311.9	307.7	305.2	302.6	300.0	297.5
35°	297.6	291.2	284.8	280.5	278.3	276.1	273.9	271.7
37.5°	272.1	265.1	258.1	253.3	250.8	248.2	245.7	243.1
40°	255.1	247.9	240.7	235.8	233.2	230.6	227.9	225.3
42.5°	237.8	230.4	223.0	218.1	215.5	213.0	210.4	207.9
45°	212.8	205.6	198.5	193.7	191.3	188.8	186.4	184.0
47.5°	188.4	181.3	174.2	169.5	167.3	165.1	162.9	160.7
50°	172.8	165.8	158.8	154.3	152.2	150.1	147.9	145.8
52.5°	158.0	151.3	144.6	140.2	138.3	136.3	134.3	132.4
55°	135.5	129.5	123.4	119.4	117.5	115.6	113.7	111.8
57.5°	115.1	109.5	104.0	100.4	98.8	97.2	95.6	93.9
60°	101.0	95.9	90.7	87.3	85.7	84.1	82.5	80.9
62.5°	88.8	83.9	79.0	76.0	75.0	74.1	73.1	72.1
65°	72.2	68.7	65.3	63.4	63.1	62.8	62.5	62.2
67.5°	58.3	56.7	55.1	54.2	53.8	53.5	53.2	52.9
70°	50.7	49.7	48.7	48.0	47.5	47.1	46.7	46.3
72.5°	44.1	43.2	42.4	41.9	41.6	41.4	41.1	40.9
75°	34.9	34.2	33.5	33.1	33.0	32.9	32.8	32.7
77.5°	26.4	26.0	25.6	25.4	25.2	25.0	24.9	24.7
80°	21.0	20.6	20.2	20.0	20.0	20.0	20.0	20.0
82.5°	15.9	15.6	15.4	15.3	15.3	15.3	15.3	15.3
85°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
87.5°	13.0	12.8	12.6	12.5	12.6	12.7	12.7	12.8
90°	51.4	50.8	50.1	49.9	50.3	50.6	50.9	51.3
92.5°	48.2	48.3	48.5	48.6	48.6	48.7	48.8	48.8
95°	96.5	96.5	96.5	96.1	95.5	94.8	94.1	93.5
97.5°	162.2	162.2	162.2	162.2	162.1	162.0	162.0	161.9
100°	208.0	208.0	208.0	207.9	207.5	207.2	206.9	206.5
102.5°	258.0	258.3	258.6	258.5	258.2	257.9	257.5	257.2
105°	333.0	333.7	334.3	334.7	334.7	334.7	334.7	334.7
107.5°	413.9	414.2	414.4	413.8	412.3	410.7	409.2	407.6
110°	468.9	468.9	468.9	468.3	467.3	466.3	465.3	464.3



TEST NUMBER: P331784

CATALOG NUMBER: S122RDIW-S290D1440U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	523.9	523.1	522.3	521.5	520.8	520.1	519.3	518.6
115°	608.4	608.0	607.7	607.0	606.0	605.0	604.0	603.0
117.5°	690.1	689.3	688.5	687.5	686.5	685.5	684.5	683.5
120°	744.7	744.7	744.7	744.2	743.2	742.2	741.2	740.2
122.5°	801.0	800.2	799.4	798.6	797.9	797.2	796.4	795.7
125°	884.4	883.4	882.4	881.8	881.4	881.1	880.8	880.4
127.5°	965.4	964.2	963.0	961.9	960.8	959.7	958.7	957.6
130°	1020.8	1020.1	1019.4	1018.4	1017.1	1015.8	1014.4	1013.1
132.5°	1074.7	1073.2	1071.7	1070.4	1069.4	1068.3	1067.2	1066.1
135°	1154.1	1153.8	1153.5	1152.8	1151.8	1150.8	1149.8	1148.8
137.5°	1230.2	1230.0	1229.7	1228.9	1227.6	1226.2	1224.9	1223.5
140°	1281.4	1281.4	1281.4	1280.8	1279.4	1278.1	1276.7	1275.4
142.5°	1327.8	1328.1	1328.3	1327.8	1326.5	1325.1	1323.8	1322.4
145°	1398.2	1398.5	1398.8	1398.3	1397.0	1395.7	1394.3	1393.0
147.5°	1459.9	1460.6	1461.4	1461.1	1459.8	1458.5	1457.3	1456.0
150°	1499.0	1500.0	1501.0	1501.0	1500.0	1499.0	1498.0	1497.0
152.5°	1538.1	1539.4	1540.7	1540.7	1539.4	1538.1	1536.9	1535.6
155°	1587.8	1589.5	1591.1	1591.5	1590.5	1589.5	1588.5	1587.5
157.5°	1633.6	1635.9	1638.2	1638.5	1636.9	1635.3	1633.7	1632.1
160°	1660.8	1662.8	1664.8	1665.2	1663.8	1662.5	1661.2	1659.8
162.5°	1685.5	1687.8	1690.0	1690.4	1688.8	1687.2	1685.6	1683.9
165°	1717.3	1719.6	1722.0	1722.3	1720.6	1719.0	1717.3	1715.6
167.5°	1743.5	1745.9	1748.2	1748.5	1746.8	1745.0	1743.3	1741.5
170°	1758.0	1760.3	1762.7	1762.8	1760.8	1758.8	1756.8	1754.8
172.5°	1768.8	1771.2	1773.5	1773.7	1771.7	1769.7	1767.7	1765.7
175°	1780.6	1782.9	1785.3	1785.5	1783.4	1781.4	1779.4	1777.4
177.5°	1786.1	1787.7	1789.3	1789.3	1787.7	1786.1	1784.4	1782.8
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5

(END OF REPORT)