

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: P331784-830

Luminaire Tested: **S122RDIW-S290D1440U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331784-830
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-S290D1440U830-4F0-1E-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: 5688.1 lumens
Efficiency: N/A
Efficacy: 106.5 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

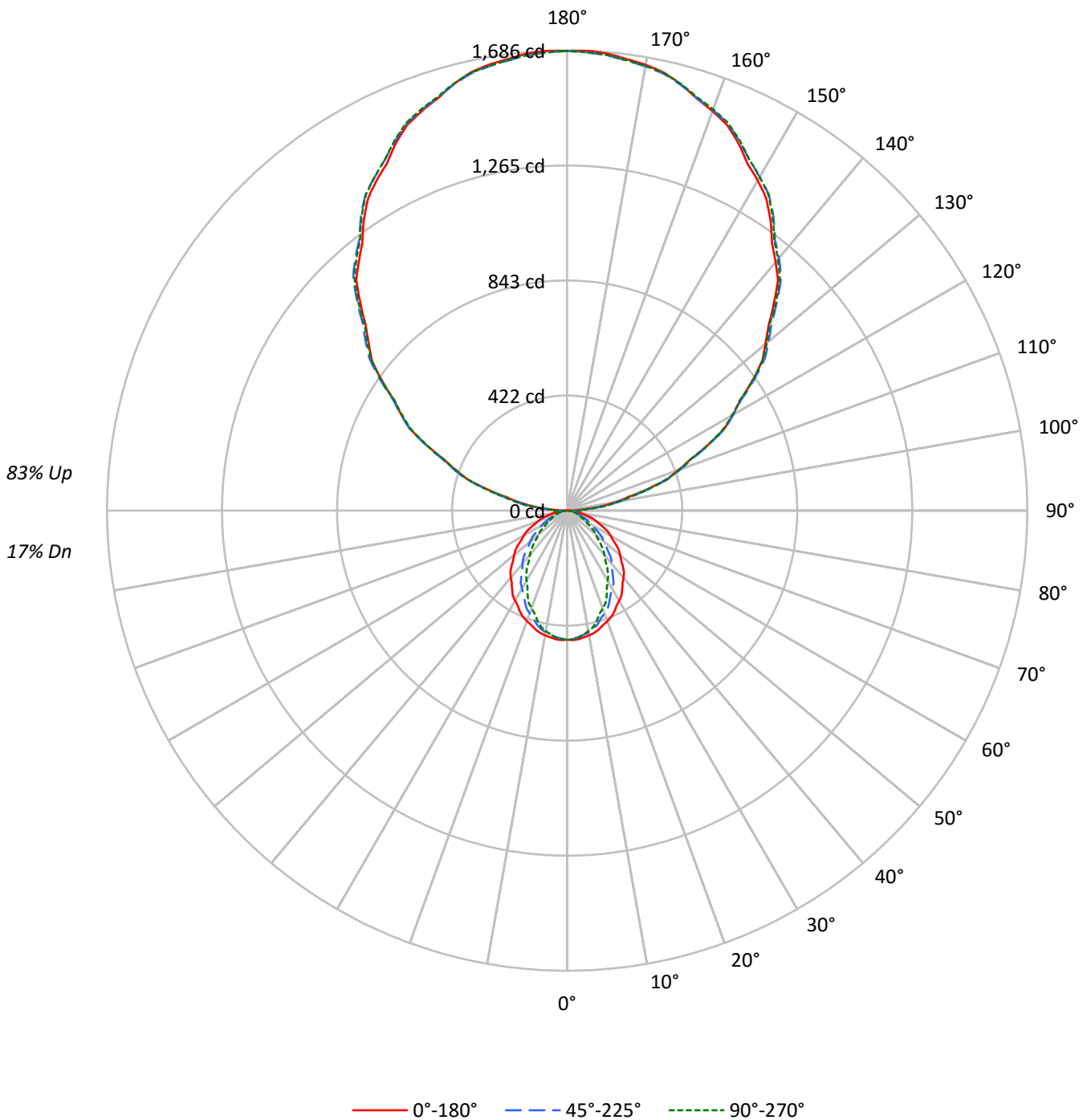
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7640	7640	7640
5°	7669	7543	7585
10°	7609	7420	7356
15°	7522	7199	6992
20°	7400	6887	6541
25°	7277	6531	6102
30°	7105	6162	5541
35°	6936	5765	5048
40°	6768	5351	4477
45°	6572	4889	3959
50°	6365	4421	3451
55°	6159	3916	2967
60°	5916	3387	2464
65°	5643	2846	2239
70°	5316	2346	2058
75°	4916	2133	1921
80°	4342	1906	1757
85°	3409	1501	1501



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.3	0.8
10°-20°	121.6	2.1
20°-30°	170.8	3.0
30°-40°	186.2	3.3
40°-50°	171.2	3.0
50°-60°	134.5	2.4
60°-70°	87.7	1.5
70°-80°	45.2	0.8
80°-90°	18.4	0.3
90°-100°	106.7	1.9
100°-110°	331.4	5.8
110°-120°	566.4	10.0
120°-130°	744.9	13.1
130°-140°	836.1	14.7
140°-150°	819.8	14.4
150°-160°	687.6	12.1
160°-170°	456.0	8.0
170°-180°	159.4	2.8
0°-30°	336.6	5.9
0°-40°	522.8	9.2
0°-60°	828.5	14.6
0°-90°	979.8	17.2
90°-120°	1004.5	17.7
90°-150°	3405.2	59.9
90°-180°	4708.0	82.8
0°-180°	5688.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	473	473	473	473	473	
5°	473	471	465	469	468	45
15°	450	445	431	423	418	127
25°	408	394	367	350	342	188
35°	352	329	292	266	256	220
45°	288	258	214	185	173	222
55°	219	185	139	114	105	195
65°	148	113	74	61	59	146
75°	79	50	34	31	31	83
85°	18	10	8	8	8	22
90°	1	19	50	47	48	5
95°	74	87	91	91	88	85
105°	306	310	313	315	316	323
115°	568	576	574	572	568	562
125°	827	839	836	831	830	739
135°	1070	1085	1088	1087	1083	826
145°	1299	1309	1317	1318	1313	811
155°	1485	1489	1493	1500	1496	683
165°	1616	1614	1614	1623	1617	455
175°	1681	1677	1674	1683	1675	160
180°	1684	1684	1684	1684	1684	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	474.9	474.5	474.1	473.7	473.3	472.7	471.8	471.1	470.2	469.4	470.1
5°	473.2	472.7	472.2	471.7	471.3	470.3	469.1	467.9	466.7	465.4	466.3
7.5°	468.3	467.7	467.0	466.5	465.9	464.9	463.4	461.9	460.5	459.1	459.3
10°	464.1	463.4	462.8	462.1	461.5	460.1	458.3	456.4	454.5	452.6	452.3
12.5°	459.0	458.2	457.3	456.6	455.7	454.1	451.7	449.2	446.8	444.3	443.8
15°	450.0	448.9	447.9	446.9	445.8	443.7	440.5	437.2	433.9	430.7	429.0
17.5°	438.9	437.3	435.7	434.1	432.5	429.7	425.6	421.4	417.3	413.1	410.9
20°	430.7	428.9	427.0	425.0	423.1	419.8	415.0	410.3	405.6	400.8	398.4
22.5°	421.9	419.7	417.5	415.5	413.3	409.5	404.2	398.8	393.5	388.1	385.0
25°	408.5	405.4	402.4	399.4	396.3	391.6	385.3	379.1	372.8	366.6	362.6
27.5°	392.4	389.1	385.8	382.5	379.1	373.9	366.8	359.8	352.7	345.6	341.1
30°	381.1	377.5	373.8	370.2	366.6	361.0	353.4	345.8	338.2	330.5	325.7
32.5°	370.1	365.9	361.7	357.4	353.2	347.2	339.5	331.7	324.0	316.1	310.7
35°	351.9	347.1	342.2	337.4	332.5	325.9	317.5	309.2	300.9	292.5	286.4
37.5°	333.8	328.5	323.1	317.8	312.5	305.4	296.4	287.5	278.6	269.7	263.1
40°	321.1	315.5	309.7	304.0	298.3	290.9	281.6	272.4	263.2	253.9	247.1
42.5°	308.1	302.1	296.1	290.1	284.1	276.3	266.7	257.2	247.7	238.2	231.2
45°	287.8	281.3	274.9	268.6	262.2	254.0	244.0	234.0	224.0	214.1	207.4
47.5°	267.9	261.1	254.4	247.6	240.8	232.3	222.0	211.7	201.3	191.1	184.4
50°	253.4	246.8	240.0	233.2	226.5	217.8	207.4	196.9	186.4	176.0	169.4
52.5°	239.4	232.3	225.4	218.3	211.2	202.6	192.3	182.1	171.8	161.6	155.2
55°	218.8	211.4	204.0	196.5	189.1	180.3	169.9	159.7	149.4	139.1	133.5
57.5°	197.7	190.0	182.4	174.8	167.2	158.4	148.5	138.7	128.8	118.9	113.7
60°	183.2	175.7	168.1	160.4	152.8	144.1	134.3	124.5	114.7	104.9	100.0
62.5°	169.2	161.6	154.0	146.4	138.7	130.3	120.9	111.6	102.3	92.9	88.3
65°	147.7	140.0	132.3	124.6	116.9	108.8	100.2	91.6	83.0	74.5	71.3
67.5°	127.0	119.3	111.7	104.1	96.4	88.7	81.0	73.3	65.6	57.9	56.4
70°	112.6	105.2	97.7	90.4	82.9	76.0	69.4	62.8	56.3	49.7	48.7
72.5°	98.9	91.8	84.6	77.6	70.4	64.3	59.0	53.7	48.4	43.2	42.3
75°	78.8	72.1	65.5	58.8	52.1	47.2	43.9	40.7	37.5	34.2	33.6
77.5°	59.0	53.2	47.3	41.5	35.6	32.0	30.3	28.8	27.2	25.7	25.4
80°	46.7	41.8	36.9	32.1	27.2	24.3	23.4	22.4	21.5	20.5	20.2
82.5°	35.3	31.6	27.8	24.0	20.3	18.0	17.3	16.7	16.0	15.5	15.2
85°	18.4	16.4	14.4	12.4	10.5	9.2	9.0	8.7	8.4	8.1	8.1
87.5°	5.7	5.9	6.0	6.2	6.3	7.2	8.5	9.9	11.3	12.7	12.4
90°	1.4	5.2	9.0	12.8	16.6	22.0	28.9	35.8	42.8	49.8	49.1
92.5°	25.3	28.1	30.8	33.6	36.4	38.6	40.2	41.9	43.5	45.1	45.3
95°	73.9	77.0	80.2	83.3	86.5	88.4	89.1	89.6	90.3	91.0	91.0
97.5°	135.0	137.8	140.5	143.4	146.1	148.1	149.3	150.5	151.7	152.9	152.9
100°	180.5	182.9	185.5	188.0	190.6	192.3	193.2	194.2	195.1	196.0	196.0
102.5°	228.2	230.3	232.2	234.2	236.3	237.9	239.1	240.3	241.5	242.7	243.0
105°	305.5	306.4	307.4	308.3	309.2	310.1	310.8	311.3	312.0	312.6	313.2
107.5°	383.3	384.7	386.2	387.6	388.9	389.6	389.6	389.6	389.6	389.6	389.8
110°	433.4	435.3	437.2	439.0	440.9	442.0	442.0	442.0	442.0	442.0	442.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	488.0	489.8	491.7	493.6	495.5	496.3	496.1	495.9	495.6	495.3	494.6
115°	568.4	570.2	572.1	574.1	576.0	576.6	576.0	575.3	574.7	574.1	573.7
117.5°	648.6	651.0	653.6	656.1	658.6	659.0	657.2	655.4	653.7	652.0	651.2
120°	701.9	704.5	707.0	709.5	712.1	712.1	709.5	707.0	704.5	701.9	701.9
122.5°	750.8	753.8	756.9	759.9	763.0	763.6	761.9	760.1	758.3	756.5	755.7
125°	827.0	829.8	832.6	835.5	838.4	839.3	838.4	837.4	836.5	835.5	834.5
127.5°	901.2	904.7	908.3	912.0	915.6	916.8	915.7	914.5	913.4	912.3	911.1
130°	947.7	951.9	956.0	960.1	964.2	965.9	965.3	964.7	964.0	963.4	962.8
132.5°	1000.0	1003.4	1006.7	1010.1	1013.4	1015.2	1015.3	1015.4	1015.6	1015.7	1014.3
135°	1070.0	1073.5	1076.9	1080.3	1083.8	1085.9	1086.6	1087.2	1087.8	1088.4	1088.2
137.5°	1143.6	1146.4	1149.2	1152.1	1154.9	1156.8	1157.6	1158.4	1159.2	1160.1	1159.8
140°	1187.9	1190.7	1193.6	1196.5	1199.3	1201.5	1203.1	1204.7	1206.3	1207.8	1207.8
142.5°	1233.4	1236.2	1239.1	1241.9	1244.7	1246.7	1247.7	1248.9	1249.9	1251.0	1251.2
145°	1298.7	1301.0	1303.2	1305.3	1307.6	1309.7	1311.5	1313.4	1315.3	1317.2	1317.5
147.5°	1357.0	1359.6	1362.3	1365.0	1367.6	1369.6	1370.8	1372.1	1373.4	1374.6	1375.4
150°	1396.8	1398.6	1400.6	1402.5	1404.4	1405.9	1407.2	1408.4	1409.8	1411.0	1411.9
152.5°	1432.0	1433.9	1435.8	1437.7	1439.6	1441.3	1442.8	1444.4	1445.9	1447.4	1448.6
155°	1484.9	1485.8	1486.8	1487.7	1488.7	1489.6	1490.5	1491.5	1492.4	1493.4	1495.0
157.5°	1530.0	1530.7	1531.3	1532.0	1532.6	1533.2	1533.8	1534.4	1534.9	1535.5	1537.6
160°	1557.4	1558.0	1558.6	1559.2	1559.9	1560.4	1560.7	1560.9	1561.3	1561.6	1563.5
162.5°	1582.3	1582.5	1582.6	1582.7	1582.9	1583.1	1583.4	1583.8	1584.0	1584.3	1586.5
165°	1615.6	1615.3	1615.0	1614.7	1614.4	1614.2	1614.2	1614.2	1614.2	1614.2	1616.4
167.5°	1643.4	1642.5	1641.5	1640.6	1639.6	1639.2	1639.1	1639.1	1639.0	1638.9	1641.2
170°	1658.2	1657.3	1656.3	1655.4	1654.4	1653.8	1653.5	1653.2	1652.8	1652.6	1654.7
172.5°	1668.5	1667.5	1666.6	1665.7	1664.7	1664.1	1663.8	1663.4	1663.1	1662.7	1665.0
175°	1680.9	1680.0	1679.0	1678.1	1677.2	1676.4	1675.7	1675.1	1674.5	1673.9	1676.1
177.5°	1686.1	1685.4	1684.6	1683.9	1683.1	1682.4	1681.9	1681.4	1680.9	1680.4	1681.9
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	470.9	471.6	472.4	472.7	472.6	472.4	472.2	472.1
5°	467.1	468.0	468.8	469.1	468.8	468.5	468.3	468.0
7.5°	459.6	459.9	460.1	460.0	459.5	458.9	458.5	458.0
10°	452.0	451.8	451.5	451.0	450.4	449.9	449.3	448.7
12.5°	443.4	442.8	442.3	441.6	440.6	439.7	438.8	437.8
15°	427.2	425.3	423.5	422.2	421.2	420.2	419.2	418.3
17.5°	408.8	406.6	404.5	402.7	401.0	399.4	397.7	396.1
20°	396.1	393.6	391.2	389.0	386.9	384.8	382.8	380.7
22.5°	382.0	378.9	375.9	373.5	371.9	370.4	368.8	367.3
25°	358.7	354.8	350.9	348.3	346.9	345.3	343.9	342.5
27.5°	336.5	332.0	327.4	324.0	321.8	319.5	317.3	315.0
30°	320.8	316.0	311.1	307.5	304.8	302.3	299.7	297.2
32.5°	305.1	299.5	294.0	290.0	287.7	285.2	282.8	280.4
35°	280.5	274.5	268.4	264.4	262.3	260.2	258.2	256.1
37.5°	256.5	249.9	243.3	238.7	236.4	233.9	231.6	229.1
40°	240.4	233.7	226.9	222.3	219.8	217.4	214.8	212.4
42.5°	224.1	217.2	210.2	205.6	203.1	200.8	198.3	196.0
45°	200.6	193.8	187.1	182.6	180.3	178.0	175.7	173.4
47.5°	177.6	170.9	164.2	159.8	157.7	155.6	153.5	151.5
50°	162.9	156.3	149.7	145.4	143.5	141.5	139.4	137.4
52.5°	148.9	142.6	136.3	132.1	130.4	128.5	126.6	124.8
55°	127.7	122.1	116.3	112.5	110.7	109.0	107.2	105.4
57.5°	108.5	103.2	98.0	94.6	93.1	91.6	90.1	88.5
60°	95.2	90.4	85.5	82.3	80.8	79.3	77.8	76.3
62.5°	83.7	79.1	74.5	71.6	70.7	69.8	68.9	68.0
65°	68.1	64.8	61.5	59.8	59.5	59.2	58.9	58.6
67.5°	55.0	53.4	51.9	51.1	50.7	50.4	50.1	49.9
70°	47.8	46.8	45.9	45.2	44.8	44.4	44.0	43.6
72.5°	41.6	40.7	40.0	39.5	39.2	39.0	38.7	38.5
75°	32.9	32.2	31.6	31.2	31.1	31.0	30.9	30.8
77.5°	24.9	24.5	24.1	23.9	23.8	23.6	23.5	23.3
80°	19.8	19.4	19.0	18.9	18.9	18.9	18.9	18.9
82.5°	15.0	14.7	14.5	14.4	14.4	14.4	14.4	14.4
85°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
87.5°	12.3	12.1	11.9	11.8	11.9	12.0	12.0	12.1
90°	48.4	47.9	47.2	47.0	47.4	47.7	48.0	48.4
92.5°	45.4	45.5	45.7	45.8	45.8	45.9	46.0	46.0
95°	91.0	91.0	91.0	90.6	90.0	89.4	88.7	88.1
97.5°	152.9	152.9	152.9	152.9	152.8	152.7	152.7	152.6
100°	196.0	196.0	196.0	196.0	195.6	195.3	195.0	194.6
102.5°	243.2	243.5	243.7	243.6	243.4	243.1	242.7	242.4
105°	313.9	314.5	315.1	315.5	315.5	315.5	315.5	315.5
107.5°	390.1	390.4	390.6	390.0	388.6	387.1	385.7	384.2
110°	442.0	442.0	442.0	441.4	440.5	439.5	438.6	437.6



TEST NUMBER: P331784-830

CATALOG NUMBER: S122RDIW-S290D1440U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	493.8	493.0	492.3	491.5	490.9	490.2	489.5	488.8
115°	573.4	573.1	572.8	572.1	571.2	570.2	569.3	568.4
117.5°	650.4	649.7	648.9	648.0	647.1	646.1	645.2	644.2
120°	701.9	701.9	701.9	701.4	700.5	699.6	698.6	697.7
122.5°	755.0	754.2	753.5	752.7	752.1	751.4	750.6	750.0
125°	833.6	832.6	831.7	831.1	830.8	830.5	830.2	829.8
127.5°	909.9	908.8	907.7	906.6	905.6	904.6	903.6	902.6
130°	962.1	961.5	960.8	959.9	958.7	957.4	956.1	954.9
132.5°	1013.0	1011.5	1010.1	1008.9	1008.0	1006.9	1005.9	1004.8
135°	1087.8	1087.5	1087.2	1086.6	1085.6	1084.7	1083.7	1082.8
137.5°	1159.5	1159.3	1159.0	1158.3	1157.1	1155.7	1154.5	1153.2
140°	1207.8	1207.8	1207.8	1207.2	1205.9	1204.7	1203.3	1202.1
142.5°	1251.5	1251.8	1252.0	1251.5	1250.3	1249.0	1247.7	1246.4
145°	1317.9	1318.1	1318.4	1318.0	1316.7	1315.5	1314.2	1313.0
147.5°	1376.0	1376.7	1377.4	1377.1	1375.9	1374.7	1373.6	1372.3
150°	1412.9	1413.8	1414.8	1414.8	1413.8	1412.9	1411.9	1411.0
152.5°	1449.7	1451.0	1452.2	1452.2	1451.0	1449.7	1448.6	1447.4
155°	1496.6	1498.2	1499.7	1500.1	1499.1	1498.2	1497.2	1496.3
157.5°	1539.7	1541.9	1544.1	1544.4	1542.8	1541.3	1539.8	1538.3
160°	1565.4	1567.3	1569.1	1569.5	1568.2	1567.0	1565.8	1564.4
162.5°	1588.7	1590.8	1592.9	1593.3	1591.8	1590.3	1588.7	1587.1
165°	1618.6	1620.8	1623.1	1623.3	1621.7	1620.2	1618.6	1617.0
167.5°	1643.3	1645.6	1647.8	1648.0	1646.4	1644.7	1643.1	1641.4
170°	1657.0	1659.2	1661.4	1661.5	1659.6	1657.7	1655.9	1654.0
172.5°	1667.2	1669.4	1671.6	1671.8	1669.9	1668.0	1666.1	1664.2
175°	1678.3	1680.5	1682.7	1682.9	1680.9	1679.0	1677.2	1675.3
177.5°	1683.5	1685.0	1686.5	1686.5	1685.0	1683.5	1681.9	1680.4
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9

(END OF REPORT)