

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: P331494-840

Luminaire Tested: **S122DIW-S290D1440U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331494-840
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: S122DIW-S290D1440U840-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6265.5 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

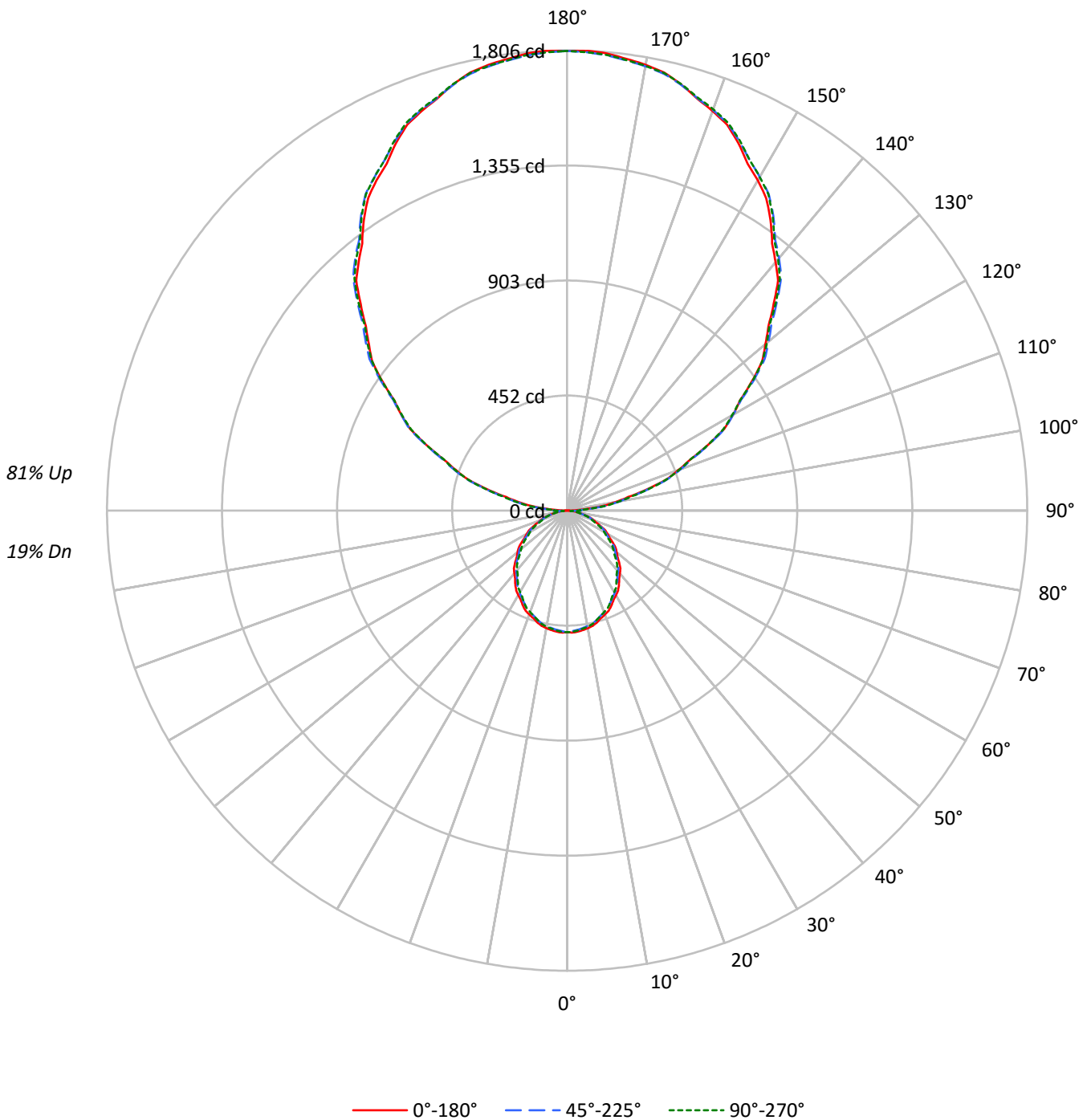
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	91	87	83	80	80	77	74	71	58	56	54	41	39	38	25	24	24	16
2	83	76	70	65	73	67	62	58	51	47	45	36	34	32	22	21	20	14
3	75	66	60	54	66	59	53	48	45	41	38	31	29	27	19	18	17	12
4	69	59	51	45	61	52	46	41	40	35	32	28	25	23	17	16	14	10
5	63	52	44	39	55	46	40	35	35	31	27	25	22	20	15	14	13	9
6	58	46	39	33	51	41	35	30	32	27	24	22	20	17	14	12	11	8
7	53	42	34	29	47	37	31	26	28	24	21	20	17	15	13	11	10	7
8	49	38	30	25	43	34	27	23	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	40	31	24	20	24	19	16	17	14	12	11	9	8	5
10	43	31	24	20	38	28	22	18	22	17	14	16	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7703	7703	7703
5°	7733	7621	7666
10°	7688	7543	7581
15°	7590	7447	7438
20°	7455	7301	7290
25°	7322	7119	7119
30°	7150	6952	6893
35°	6991	6753	6654
40°	6787	6555	6431
45°	6588	6357	6202
50°	6373	6154	5935
55°	6145	5917	5695
60°	5896	5628	5422
65°	5624	5349	5100
70°	5282	4999	4763
75°	4810	4604	4492
80°	4258	4138	3924
85°	3483	3316	2983



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.9	0.7
10°-20°	126.2	2.0
20°-30°	185.5	3.0
30°-40°	215.5	3.4
40°-50°	215.3	3.4
50°-60°	187.7	3.0
60°-70°	138.8	2.2
70°-80°	78.6	1.3
80°-90°	28.3	0.5
90°-100°	114.3	1.8
100°-110°	355.0	5.7
110°-120°	606.9	9.7
120°-130°	798.1	12.7
130°-140°	895.8	14.3
140°-150°	878.3	14.0
150°-160°	736.7	11.8
160°-170°	488.6	7.8
170°-180°	170.8	2.7
0°-30°	356.6	5.7
0°-40°	572.2	9.1
0°-60°	975.2	15.6
0°-90°	1221.0	19.5
90°-120°	1076.2	17.2
90°-150°	3648.4	58.2
90°-180°	5045.0	80.5
0°-180°	6265.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	477	477	477	477	477	
5°	477	475	470	474	473	45
15°	454	451	446	447	445	128
25°	411	407	400	400	400	189
35°	355	350	343	340	338	221
45°	288	285	278	274	272	223
55°	218	215	210	205	202	195
65°	147	144	140	136	134	146
75°	77	76	74	71	72	82
85°	19	18	18	17	16	22
90°	2	21	53	50	52	5
95°	79	94	98	97	94	91
105°	327	332	335	338	338	346
115°	609	617	615	613	609	602
125°	886	899	895	891	889	791
135°	1146	1162	1166	1165	1160	885
145°	1392	1402	1411	1412	1407	869
155°	1591	1596	1600	1607	1603	732
165°	1731	1730	1730	1739	1732	488
175°	1801	1797	1793	1803	1795	171
180°	1804	1804	1804	1804	1804	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	479.3	478.9	478.5	478.1	477.7	477.1	476.2	475.2	474.3	473.4	474.2
5°	477.1	476.7	476.3	475.8	475.4	474.7	473.6	472.5	471.3	470.2	471.0
7.5°	472.9	472.2	471.6	471.0	470.4	469.5	468.4	467.2	466.1	464.9	465.7
10°	468.9	468.2	467.5	466.8	466.0	465.0	463.8	462.6	461.4	460.1	460.9
12.5°	463.3	462.7	462.1	461.4	460.8	459.9	458.7	457.5	456.3	455.0	455.6
15°	454.1	453.5	452.9	452.3	451.7	450.8	449.4	448.1	446.8	445.5	445.9
17.5°	442.4	441.8	441.2	440.6	440.0	439.0	437.7	436.3	434.9	433.6	434.0
20°	433.9	433.3	432.7	432.1	431.5	430.5	429.1	427.7	426.3	424.9	425.2
22.5°	425.6	424.6	423.8	422.9	422.1	421.0	419.7	418.3	417.0	415.7	415.7
25°	411.0	410.2	409.4	408.6	407.8	406.5	404.8	403.0	401.3	399.6	399.8
27.5°	394.6	393.8	393.0	392.3	391.6	390.5	389.2	387.8	386.5	385.1	384.8
30°	383.5	382.7	381.9	381.1	380.2	379.1	377.6	376.1	374.5	372.9	372.6
32.5°	371.7	371.1	370.5	369.8	369.2	368.0	366.4	364.9	363.2	361.6	361.0
35°	354.7	353.6	352.5	351.5	350.5	349.2	347.6	346.0	344.4	342.6	342.0
37.5°	335.3	334.4	333.5	332.5	331.6	330.4	328.8	327.2	325.5	323.9	323.2
40°	322.0	321.2	320.4	319.6	318.8	317.6	315.9	314.3	312.7	311.0	310.1
42.5°	309.2	308.4	307.6	306.8	306.0	304.7	303.1	301.4	299.8	298.2	297.2
45°	288.5	287.8	287.1	286.4	285.7	284.6	283.1	281.6	280.0	278.4	277.3
47.5°	268.0	267.3	266.7	266.0	265.3	264.2	262.6	261.1	259.4	257.8	256.6
50°	253.7	253.2	252.7	252.2	251.7	250.6	249.2	247.8	246.4	245.0	243.6
52.5°	239.7	239.0	238.4	237.7	237.0	236.0	234.7	233.4	232.0	230.7	229.4
55°	218.3	217.7	217.1	216.5	215.9	215.0	213.8	212.6	211.4	210.2	208.8
57.5°	196.9	196.4	195.9	195.4	194.9	194.0	192.7	191.4	190.0	188.6	187.4
60°	182.6	182.2	181.8	181.4	181.0	180.1	178.6	177.2	175.7	174.3	173.2
62.5°	168.6	167.9	167.3	166.7	166.0	165.1	164.0	163.0	161.9	160.8	159.7
65°	147.2	146.6	146.0	145.4	144.8	144.0	143.0	142.0	141.0	140.0	139.0
67.5°	125.5	125.0	124.5	124.0	123.6	122.9	121.9	121.0	120.1	119.2	118.5
70°	111.9	111.5	111.1	110.7	110.3	109.7	108.8	107.9	106.8	105.9	105.2
72.5°	98.0	97.6	97.1	96.7	96.3	95.8	95.2	94.7	94.1	93.5	92.8
75°	77.1	76.9	76.6	76.4	76.2	75.9	75.4	74.8	74.3	73.8	73.2
77.5°	58.4	58.0	57.7	57.4	57.0	56.7	56.5	56.2	56.0	55.8	55.5
80°	45.8	45.7	45.6	45.5	45.4	45.3	45.1	44.9	44.7	44.5	44.2
82.5°	34.1	34.1	34.1	34.0	34.0	33.9	33.8	33.7	33.6	33.5	33.1
85°	18.8	18.7	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.6
87.5°	6.9	7.6	8.2	8.9	9.5	10.5	11.8	13.1	14.4	15.8	15.5
90°	1.5	5.6	9.6	13.7	17.8	23.5	31.0	38.4	45.8	53.3	52.6
92.5°	27.1	30.1	33.0	36.1	39.0	41.4	43.1	44.9	46.7	48.4	48.6
95°	79.2	82.5	85.9	89.3	92.7	94.7	95.4	96.0	96.7	97.5	97.5
97.5°	144.6	147.6	150.6	153.6	156.5	158.6	160.0	161.3	162.5	163.8	163.8
100°	193.4	196.0	198.7	201.5	204.2	206.0	207.0	208.0	209.0	210.1	210.1
102.5°	244.5	246.7	248.8	251.0	253.2	254.9	256.2	257.4	258.7	260.0	260.3
105°	327.3	328.3	329.3	330.3	331.3	332.2	333.0	333.6	334.3	335.0	335.6
107.5°	410.7	412.2	413.7	415.3	416.7	417.5	417.5	417.5	417.5	417.5	417.7
110°	464.3	466.4	468.4	470.4	472.4	473.5	473.5	473.5	473.5	473.5	473.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	522.8	524.8	526.8	528.9	530.9	531.8	531.5	531.3	531.0	530.7	529.9
115°	608.9	611.0	613.0	615.1	617.1	617.7	617.1	616.4	615.7	615.1	614.7
117.5°	694.9	697.5	700.2	703.0	705.7	706.1	704.2	702.3	700.3	698.5	697.7
120°	752.0	754.8	757.5	760.2	763.0	763.0	760.2	757.5	754.8	752.0	752.0
122.5°	804.5	807.7	810.9	814.2	817.5	818.1	816.3	814.4	812.4	810.5	809.7
125°	886.1	889.1	892.1	895.1	898.3	899.3	898.3	897.3	896.3	895.1	894.1
127.5°	965.5	969.4	973.2	977.1	981.0	982.3	981.1	979.9	978.7	977.4	976.1
130°	1015.4	1019.9	1024.3	1028.6	1033.1	1034.9	1034.2	1033.6	1032.9	1032.2	1031.6
132.5°	1071.5	1075.1	1078.6	1082.3	1085.8	1087.7	1087.8	1087.9	1088.1	1088.2	1086.7
135°	1146.4	1150.1	1153.9	1157.5	1161.2	1163.5	1164.2	1164.9	1165.5	1166.2	1165.9
137.5°	1225.3	1228.3	1231.3	1234.4	1237.4	1239.4	1240.3	1241.1	1242.0	1242.9	1242.6
140°	1272.7	1275.8	1278.9	1281.9	1285.0	1287.3	1289.0	1290.7	1292.4	1294.0	1294.0
142.5°	1321.5	1324.5	1327.6	1330.6	1333.6	1335.7	1336.9	1338.1	1339.2	1340.4	1340.6
145°	1391.5	1393.9	1396.2	1398.6	1401.0	1403.2	1405.2	1407.2	1409.3	1411.3	1411.6
147.5°	1453.9	1456.7	1459.6	1462.5	1465.3	1467.4	1468.7	1470.1	1471.5	1472.8	1473.6
150°	1496.5	1498.5	1500.7	1502.7	1504.7	1506.3	1507.7	1509.0	1510.5	1511.8	1512.8
152.5°	1534.3	1536.3	1538.3	1540.3	1542.5	1544.3	1545.9	1547.5	1549.1	1550.7	1552.1
155°	1590.9	1592.0	1593.0	1594.0	1595.0	1596.0	1597.0	1598.0	1599.0	1600.0	1601.7
157.5°	1639.3	1640.0	1640.7	1641.4	1642.0	1642.7	1643.4	1644.0	1644.6	1645.2	1647.4
160°	1668.6	1669.3	1669.9	1670.6	1671.3	1671.8	1672.1	1672.4	1672.8	1673.1	1675.2
162.5°	1695.4	1695.6	1695.7	1695.8	1696.0	1696.2	1696.5	1696.9	1697.2	1697.5	1699.8
165°	1731.0	1730.7	1730.3	1730.0	1729.7	1729.5	1729.5	1729.5	1729.5	1729.5	1731.8
167.5°	1760.8	1759.8	1758.8	1757.8	1756.8	1756.3	1756.2	1756.2	1756.1	1756.0	1758.4
170°	1776.7	1775.6	1774.6	1773.6	1772.6	1771.9	1771.6	1771.3	1770.9	1770.6	1772.9
172.5°	1787.7	1786.7	1785.6	1784.6	1783.6	1782.9	1782.6	1782.2	1781.9	1781.5	1783.9
175°	1801.0	1800.0	1799.0	1798.0	1797.0	1796.1	1795.4	1794.7	1794.1	1793.4	1795.8
177.5°	1806.5	1805.7	1804.9	1804.1	1803.3	1802.6	1802.0	1801.5	1801.0	1800.4	1802.0
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	475.0	475.8	476.7	477.1	476.9	476.7	476.6	476.4
5°	471.9	472.7	473.5	473.8	473.6	473.4	473.2	473.0
7.5°	466.6	467.4	468.2	468.5	468.3	468.0	467.8	467.6
10°	461.8	462.6	463.4	463.6	463.3	463.0	462.7	462.4
12.5°	456.2	456.7	457.3	457.5	457.3	457.0	456.8	456.6
15°	446.3	446.7	447.1	447.1	446.6	446.1	445.6	445.0
17.5°	434.5	435.0	435.5	435.5	434.9	434.5	434.0	433.5
20°	425.5	425.8	426.1	426.0	425.6	425.2	424.7	424.3
22.5°	415.8	415.9	415.9	415.8	415.6	415.3	415.1	414.9
25°	400.0	400.2	400.4	400.4	400.2	400.0	399.8	399.6
27.5°	384.5	384.2	383.8	383.4	382.9	382.4	382.0	381.5
30°	372.3	372.0	371.7	371.4	371.0	370.6	370.2	369.7
32.5°	360.5	359.9	359.4	358.9	358.5	358.1	357.7	357.3
35°	341.4	340.8	340.2	339.7	339.2	338.7	338.2	337.6
37.5°	322.3	321.6	320.8	320.2	319.7	319.2	318.8	318.3
40°	309.2	308.3	307.4	306.7	306.3	305.9	305.5	305.1
42.5°	296.2	295.2	294.2	293.4	292.9	292.3	291.8	291.1
45°	276.2	275.1	274.0	273.2	272.8	272.4	272.0	271.6
47.5°	255.5	254.3	253.1	252.2	251.7	251.1	250.4	249.8
50°	242.2	240.7	239.2	238.3	237.8	237.3	236.8	236.3
52.5°	228.3	227.1	225.9	225.0	224.3	223.7	223.0	222.3
55°	207.6	206.4	205.2	204.4	203.9	203.3	202.8	202.3
57.5°	186.2	185.0	183.8	183.0	182.7	182.3	181.9	181.5
60°	172.1	171.0	169.9	169.2	168.8	168.5	168.2	167.9
62.5°	158.6	157.6	156.6	155.9	155.5	155.1	154.7	154.3
65°	138.0	137.1	136.2	135.5	135.0	134.5	134.0	133.5
67.5°	117.8	117.0	116.3	115.7	115.3	114.9	114.5	114.1
70°	104.5	103.8	103.1	102.6	102.2	101.7	101.3	100.9
72.5°	92.1	91.4	90.7	90.1	89.8	89.5	89.2	88.8
75°	72.6	72.0	71.4	71.2	71.4	71.6	71.8	72.0
77.5°	55.2	54.9	54.6	54.3	54.0	53.8	53.5	53.2
80°	43.9	43.6	43.3	43.0	42.8	42.6	42.4	42.2
82.5°	32.7	32.3	31.9	31.7	31.7	31.6	31.6	31.6
85°	17.3	17.0	16.7	16.5	16.4	16.3	16.2	16.1
87.5°	15.0	14.6	14.2	14.0	14.0	14.0	14.0	14.0
90°	51.9	51.3	50.6	50.4	50.8	51.1	51.4	51.8
92.5°	48.7	48.8	49.0	49.1	49.1	49.2	49.3	49.3
95°	97.5	97.5	97.5	97.0	96.4	95.7	95.0	94.4
97.5°	163.8	163.8	163.8	163.8	163.7	163.6	163.6	163.5
100°	210.1	210.1	210.1	210.0	209.5	209.2	208.9	208.5
102.5°	260.5	260.8	261.2	261.1	260.7	260.4	260.0	259.7
105°	336.3	337.0	337.6	338.0	338.0	338.0	338.0	338.0
107.5°	418.0	418.3	418.5	417.9	416.4	414.8	413.2	411.6
110°	473.5	473.5	473.5	472.9	471.9	470.9	469.9	468.9



TEST NUMBER: P331494-840

CATALOG NUMBER: S122DIW-S290D1440U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	529.1	528.3	527.5	526.6	525.9	525.2	524.4	523.7
115°	614.4	614.0	613.7	613.0	612.0	611.0	610.0	608.9
117.5°	696.9	696.1	695.3	694.3	693.3	692.3	691.3	690.2
120°	752.0	752.0	752.0	751.5	750.5	749.5	748.5	747.5
122.5°	808.9	808.1	807.3	806.5	805.8	805.1	804.3	803.5
125°	893.1	892.1	891.1	890.5	890.1	889.8	889.5	889.1
127.5°	974.9	973.7	972.5	971.4	970.3	969.2	968.2	967.0
130°	1030.9	1030.2	1029.5	1028.4	1027.1	1025.8	1024.4	1023.1
132.5°	1085.3	1083.8	1082.3	1081.0	1079.9	1078.8	1077.7	1076.6
135°	1165.5	1165.2	1164.9	1164.2	1163.2	1162.2	1161.1	1160.1
137.5°	1242.3	1242.1	1241.8	1241.0	1239.7	1238.3	1237.0	1235.6
140°	1294.0	1294.0	1294.0	1293.4	1292.0	1290.7	1289.3	1288.0
142.5°	1340.9	1341.2	1341.4	1340.9	1339.6	1338.2	1336.9	1335.4
145°	1412.0	1412.3	1412.6	1412.1	1410.8	1409.5	1408.1	1406.7
147.5°	1474.3	1475.0	1475.8	1475.5	1474.2	1472.9	1471.7	1470.4
150°	1513.8	1514.8	1515.8	1515.8	1514.8	1513.8	1512.8	1511.8
152.5°	1553.3	1554.6	1555.9	1555.9	1554.6	1553.3	1552.1	1550.7
155°	1603.5	1605.2	1606.8	1607.2	1606.2	1605.2	1604.2	1603.2
157.5°	1649.7	1652.0	1654.4	1654.7	1653.0	1651.4	1649.8	1648.2
160°	1677.2	1679.2	1681.2	1681.6	1680.2	1678.9	1677.6	1676.2
162.5°	1702.1	1704.5	1706.7	1707.1	1705.5	1703.8	1702.2	1700.5
165°	1734.2	1736.6	1739.0	1739.3	1737.6	1736.0	1734.2	1732.5
167.5°	1760.7	1763.1	1765.4	1765.7	1764.0	1762.2	1760.5	1758.7
170°	1775.3	1777.7	1780.1	1780.2	1778.2	1776.2	1774.1	1772.1
172.5°	1786.2	1788.7	1791.0	1791.2	1789.2	1787.2	1785.1	1783.1
175°	1798.2	1800.5	1802.9	1803.1	1801.0	1799.0	1797.0	1794.9
177.5°	1803.7	1805.3	1807.0	1807.0	1805.3	1803.7	1802.0	1800.4
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1

(END OF REPORT)