

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: P331590

Luminaire Tested: **S122DIW-S1005D435U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331590
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-S1005D435U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5558.3 lumens
Efficiency: N/A
Efficacy: 106.1 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-Direct

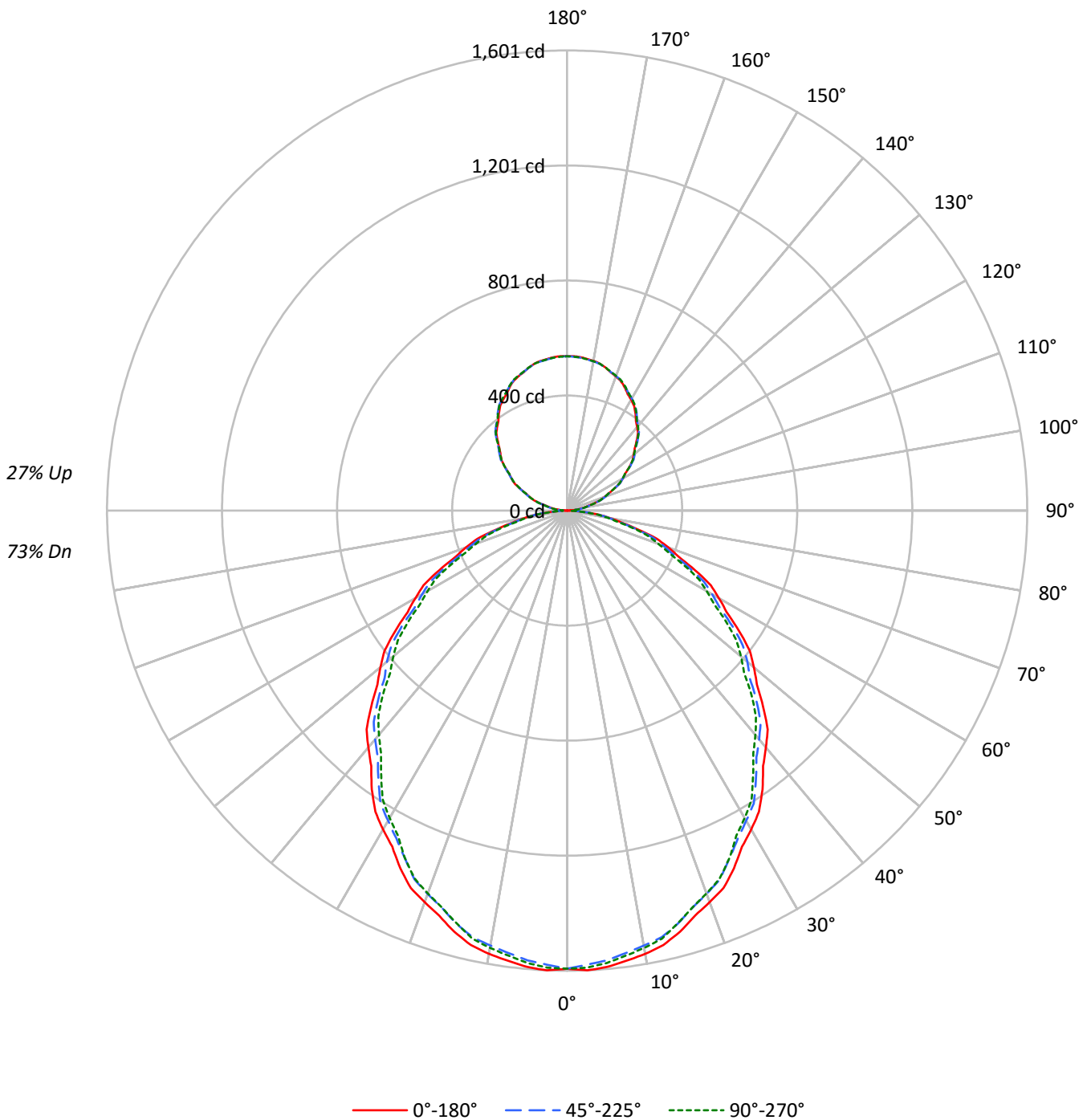
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	103	98	94	91	98	94	90	87	84	82	79	76	74	72	68	67	65	61
2	94	86	80	74	89	82	76	71	74	70	66	67	63	60	60	57	55	52
3	86	76	68	62	81	72	65	60	65	60	55	59	55	51	53	50	47	44
4	78	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	40	37
5	72	60	51	45	68	57	50	44	52	46	41	47	42	38	43	39	35	33
6	67	54	45	39	63	52	44	38	47	41	36	43	38	33	39	35	31	29
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	36	31	28	25
8	57	45	36	31	54	43	35	30	39	33	28	36	30	27	33	28	25	23
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22	20
10	50	38	30	25	48	36	29	24	33	27	23	31	25	22	28	24	20	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25733	25733	25733
5°	25832	25459	25608
10°	25678	25201	25327
15°	25361	24874	24849
20°	24911	24383	24357
25°	24464	23779	23779
30°	23886	23228	23029
35°	23349	22565	22231
40°	22675	21901	21479
45°	22012	21240	20717
50°	21288	20557	19826
55°	20535	19758	19023
60°	19695	18807	18112
65°	18793	17857	17039
70°	17651	16711	15918
75°	16064	15390	15009
80°	14254	13826	13110
85°	11634	11078	9930



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.9	2.7
10°-20°	421.7	7.6
20°-30°	619.8	11.2
30°-40°	720.0	13.0
40°-50°	719.2	12.9
50°-60°	627.2	11.3
60°-70°	463.8	8.3
70°-80°	262.7	4.7
80°-90°	72.8	1.3
90°-100°	34.0	0.6
100°-110°	105.7	1.9
110°-120°	180.6	3.2
120°-130°	237.5	4.3
130°-140°	266.6	4.8
140°-150°	261.4	4.7
150°-160°	219.2	3.9
160°-170°	145.4	2.6
170°-180°	50.8	0.9
0°-30°	1191.4	21.4
0°-40°	1911.4	34.4
0°-60°	3257.9	58.6
0°-90°	4057.1	73.0
90°-120°	320.3	5.8
90°-150°	1085.7	19.5
90°-180°	1501.0	27.0
0°-180°	5558.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1594	1587	1571	1582	1580	151
15°	1517	1507	1488	1493	1487	427
25°	1373	1360	1335	1338	1335	631
35°	1185	1169	1145	1136	1128	739
45°	964	953	930	914	907	744
55°	730	720	702	684	676	652
65°	492	482	467	454	446	486
75°	258	254	247	238	241	275
85°	63	61	60	55	54	72
90°	0	6	16	15	15	4
95°	24	28	29	29	28	27
105°	97	99	100	101	101	103
115°	181	184	183	182	181	179
125°	264	267	266	265	265	236
135°	341	346	347	346	345	263
145°	414	417	420	420	419	259
155°	473	475	476	478	477	218
165°	515	515	515	518	516	145
175°	536	535	534	537	534	51
180°	537	537	537	537	537	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1601.2	1599.8	1598.5	1597.1	1595.7	1593.6	1590.6	1587.6	1584.6	1581.6	1584.3
5°	1593.8	1592.5	1591.1	1589.7	1588.4	1585.8	1582.1	1578.3	1574.6	1570.8	1573.6
7.5°	1579.7	1577.6	1575.5	1573.4	1571.3	1568.3	1564.5	1560.7	1556.9	1553.1	1555.8
10°	1566.2	1563.9	1561.5	1559.1	1556.7	1553.5	1549.4	1545.3	1541.2	1537.1	1539.9
12.5°	1547.9	1545.7	1543.6	1541.5	1539.4	1536.3	1532.2	1528.1	1524.1	1520.0	1521.9
15°	1517.2	1515.2	1513.1	1511.1	1509.0	1505.8	1501.4	1496.9	1492.5	1488.1	1489.5
17.5°	1478.0	1475.9	1473.9	1471.8	1469.8	1466.5	1462.0	1457.5	1453.0	1448.6	1450.1
20°	1449.8	1447.7	1445.7	1443.6	1441.6	1438.2	1433.4	1428.7	1423.9	1419.1	1420.1
22.5°	1421.6	1418.7	1415.9	1413.0	1410.1	1406.5	1402.0	1397.5	1393.0	1388.5	1388.7
25°	1373.2	1370.4	1367.7	1365.0	1362.3	1358.0	1352.2	1346.4	1340.6	1334.8	1335.5
27.5°	1318.0	1315.5	1313.1	1310.6	1308.2	1304.7	1300.1	1295.5	1291.0	1286.4	1285.4
30°	1281.2	1278.5	1275.7	1273.0	1270.3	1266.4	1261.3	1256.2	1251.1	1245.9	1244.9
32.5°	1242.0	1239.8	1237.6	1235.4	1233.2	1229.5	1224.1	1218.7	1213.3	1207.9	1206.1
35°	1184.6	1181.2	1177.8	1174.4	1171.0	1166.6	1161.1	1155.7	1150.3	1144.8	1142.8
37.5°	1120.0	1117.0	1114.0	1111.0	1108.0	1103.8	1098.3	1092.9	1087.4	1082.0	1079.4
40°	1075.8	1073.1	1070.4	1067.7	1064.9	1060.9	1055.4	1050.0	1044.5	1039.1	1036.0
42.5°	1032.9	1030.2	1027.5	1024.8	1022.0	1017.9	1012.5	1007.0	1001.6	996.1	992.8
45°	964.0	961.6	959.2	956.8	954.4	950.7	945.6	940.5	935.4	930.2	926.5
47.5°	895.3	893.1	890.8	888.6	886.3	882.5	877.2	871.9	866.6	861.3	857.3
50°	847.5	845.8	844.1	842.4	840.7	837.4	832.7	827.9	823.1	818.4	813.6
52.5°	800.9	798.7	796.4	794.2	791.9	788.5	784.0	779.5	775.1	770.6	766.6
55°	729.5	727.4	725.4	723.4	721.3	718.2	714.2	710.1	706.0	701.9	697.8
57.5°	657.8	656.1	654.5	652.9	651.2	648.2	643.7	639.2	634.7	630.2	626.2
60°	609.9	608.6	607.2	605.9	604.5	601.4	596.7	591.9	587.1	582.4	578.6
62.5°	563.4	561.2	559.0	556.8	554.6	551.7	548.0	544.4	540.7	537.0	533.5
65°	491.9	489.9	487.9	485.8	483.8	481.0	477.6	474.2	470.8	467.4	464.4
67.5°	419.3	417.7	416.0	414.4	412.8	410.4	407.3	404.3	401.2	398.2	395.8
70°	373.9	372.6	371.2	369.9	368.5	366.3	363.2	360.1	357.1	354.0	351.6
72.5°	327.3	326.0	324.6	323.3	321.9	320.2	318.3	316.3	314.3	312.3	309.9
75°	257.5	256.8	256.1	255.4	254.7	253.5	251.8	250.1	248.4	246.7	244.7
77.5°	194.9	193.8	192.6	191.5	190.3	189.4	188.7	188.0	187.3	186.7	185.6
80°	153.3	152.9	152.6	152.2	151.9	151.4	150.7	150.0	149.3	148.7	147.6
82.5°	114.0	114.0	113.9	113.8	113.7	113.5	113.1	112.7	112.3	111.9	110.6
85°	62.8	62.5	62.2	61.8	61.5	61.1	60.8	60.4	60.1	59.8	58.7
87.5°	22.2	21.9	21.6	21.2	20.9	20.7	20.6	20.5	20.4	20.3	19.5
90°	0.5	1.7	2.9	4.1	5.3	7.0	9.2	11.4	13.6	15.9	15.7
92.5°	8.1	9.0	9.8	10.7	11.6	12.3	12.8	13.4	13.9	14.4	14.4
95°	23.6	24.6	25.6	26.6	27.6	28.2	28.4	28.6	28.8	29.0	29.0
97.5°	43.0	43.9	44.8	45.7	46.6	47.2	47.6	48.0	48.4	48.7	48.7
100°	57.5	58.3	59.1	60.0	60.8	61.3	61.6	61.9	62.2	62.5	62.5
102.5°	72.8	73.4	74.0	74.7	75.3	75.9	76.2	76.6	77.0	77.4	77.5
105°	97.4	97.7	98.0	98.3	98.6	98.9	99.1	99.3	99.5	99.7	99.9
107.5°	122.2	122.7	123.1	123.6	124.0	124.2	124.2	124.2	124.2	124.2	124.3
110°	138.2	138.8	139.4	140.0	140.6	140.9	140.9	140.9	140.9	140.9	140.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.6	156.2	156.8	157.4	158.0	158.3	158.2	158.1	158.0	157.9	157.7
115°	181.2	181.8	182.4	183.0	183.6	183.8	183.6	183.4	183.2	183.0	182.9
117.5°	206.8	207.6	208.4	209.2	210.0	210.1	209.6	209.0	208.4	207.9	207.6
120°	223.8	224.6	225.4	226.2	227.0	227.0	226.2	225.4	224.6	223.8	223.8
122.5°	239.4	240.4	241.3	242.3	243.3	243.5	242.9	242.3	241.8	241.2	241.0
125°	263.7	264.6	265.5	266.4	267.3	267.6	267.3	267.0	266.7	266.4	266.1
127.5°	287.3	288.5	289.6	290.8	291.9	292.3	292.0	291.6	291.2	290.9	290.5
130°	302.2	303.5	304.8	306.1	307.4	308.0	307.8	307.6	307.4	307.2	307.0
132.5°	318.9	319.9	321.0	322.1	323.1	323.7	323.7	323.8	323.8	323.8	323.4
135°	341.2	342.3	343.4	344.5	345.6	346.2	346.4	346.6	346.8	347.0	346.9
137.5°	364.6	365.5	366.4	367.3	368.2	368.8	369.1	369.4	369.6	369.9	369.8
140°	378.8	379.7	380.6	381.5	382.4	383.1	383.6	384.1	384.6	385.1	385.1
142.5°	393.3	394.2	395.1	396.0	396.9	397.5	397.8	398.2	398.5	398.9	399.0
145°	414.1	414.8	415.5	416.2	416.9	417.6	418.2	418.8	419.4	420.0	420.1
147.5°	432.7	433.5	434.4	435.2	436.1	436.7	437.1	437.5	437.9	438.3	438.5
150°	445.4	446.0	446.6	447.2	447.8	448.3	448.7	449.1	449.5	449.9	450.2
152.5°	456.6	457.2	457.8	458.4	459.0	459.6	460.0	460.5	461.0	461.5	461.9
155°	473.4	473.7	474.0	474.4	474.7	475.0	475.3	475.6	475.9	476.2	476.7
157.5°	487.9	488.1	488.3	488.5	488.7	488.8	489.0	489.2	489.4	489.6	490.3
160°	496.6	496.8	497.0	497.2	497.4	497.5	497.6	497.7	497.8	497.9	498.5
162.5°	504.5	504.6	504.6	504.6	504.7	504.8	504.9	505.0	505.1	505.2	505.8
165°	515.1	515.0	514.9	514.8	514.7	514.7	514.7	514.7	514.7	514.7	515.4
167.5°	524.0	523.7	523.4	523.1	522.8	522.6	522.6	522.6	522.6	522.6	523.3
170°	528.7	528.4	528.1	527.8	527.5	527.3	527.2	527.1	527.0	526.9	527.6
172.5°	532.0	531.7	531.4	531.1	530.8	530.6	530.5	530.4	530.3	530.2	530.9
175°	536.0	535.7	535.4	535.1	534.8	534.5	534.3	534.1	533.9	533.7	534.4
177.5°	537.6	537.4	537.1	536.9	536.6	536.4	536.3	536.1	535.9	535.8	536.3
180°	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1587.0	1589.7	1592.5	1593.6	1593.0	1592.5	1591.9	1591.4
5°	1576.3	1579.0	1581.7	1582.8	1582.1	1581.4	1580.7	1580.0
7.5°	1558.5	1561.2	1564.0	1565.0	1564.2	1563.5	1562.7	1562.0
10°	1542.6	1545.3	1548.0	1548.9	1547.9	1546.8	1545.8	1544.8
12.5°	1523.8	1525.7	1527.6	1528.2	1527.4	1526.7	1525.9	1525.2
15°	1490.8	1492.2	1493.5	1493.4	1491.7	1490.0	1488.3	1486.6
17.5°	1451.7	1453.3	1454.8	1454.8	1453.1	1451.5	1449.9	1448.2
20°	1421.2	1422.2	1423.2	1423.0	1421.7	1420.3	1419.0	1417.6
22.5°	1388.9	1389.1	1389.3	1389.0	1388.2	1387.4	1386.5	1385.7
25°	1336.2	1336.9	1337.6	1337.6	1336.9	1336.2	1335.5	1334.8
27.5°	1284.4	1283.3	1282.3	1281.0	1279.4	1277.7	1276.1	1274.5
30°	1243.9	1242.9	1241.9	1240.7	1239.3	1237.9	1236.6	1235.2
32.5°	1204.3	1202.4	1200.6	1199.0	1197.6	1196.3	1194.9	1193.5
35°	1140.7	1138.7	1136.6	1134.8	1133.1	1131.4	1129.6	1127.9
37.5°	1076.9	1074.4	1071.9	1069.8	1068.2	1066.5	1064.9	1063.3
40°	1032.9	1029.9	1026.8	1024.6	1023.2	1021.9	1020.5	1019.1
42.5°	989.5	986.1	982.8	980.2	978.3	976.4	974.5	972.5
45°	922.8	919.0	915.3	912.7	911.3	910.0	908.6	907.3
47.5°	853.4	849.4	845.5	842.5	840.5	838.6	836.6	834.6
50°	808.8	804.1	799.3	796.1	794.4	792.7	791.0	789.3
52.5°	762.7	758.7	754.8	751.7	749.4	747.2	744.9	742.7
55°	693.7	689.6	685.6	682.7	681.0	679.3	677.6	675.8
57.5°	622.1	618.1	614.1	611.4	610.2	608.9	607.6	606.3
60°	574.9	571.1	567.4	565.0	564.0	563.0	561.9	560.9
62.5°	530.1	526.6	523.1	520.7	519.4	518.1	516.8	515.5
65°	461.3	458.2	455.2	452.8	451.1	449.4	447.7	446.0
67.5°	393.4	391.0	388.6	386.7	385.4	384.0	382.7	381.3
70°	349.2	346.9	344.5	342.6	341.2	339.9	338.5	337.2
72.5°	307.6	305.2	302.8	301.1	300.0	298.9	297.8	296.7
75°	242.7	240.6	238.6	237.9	238.6	239.2	239.9	240.6
77.5°	184.6	183.6	182.6	181.6	180.6	179.7	178.7	177.8
80°	146.6	145.6	144.6	143.7	143.0	142.4	141.7	141.0
82.5°	109.3	108.0	106.7	106.0	105.8	105.7	105.6	105.4
85°	57.7	56.7	55.7	55.0	54.7	54.3	54.0	53.6
87.5°	18.6	17.8	16.9	16.4	16.1	15.8	15.6	15.3
90°	15.5	15.3	15.1	15.0	15.1	15.2	15.3	15.4
92.5°	14.5	14.5	14.6	14.6	14.6	14.6	14.7	14.7
95°	29.0	29.0	29.0	28.9	28.7	28.5	28.3	28.1
97.5°	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
100°	62.5	62.5	62.5	62.5	62.4	62.3	62.2	62.1
102.5°	77.5	77.6	77.7	77.7	77.6	77.5	77.4	77.3
105°	100.1	100.3	100.5	100.6	100.6	100.6	100.6	100.6
107.5°	124.4	124.5	124.6	124.4	123.9	123.4	123.0	122.5
110°	140.9	140.9	140.9	140.7	140.4	140.1	139.8	139.5



TEST NUMBER: P331590

CATALOG NUMBER: S122DIW-S1005D435U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.5	157.2	157.0	156.7	156.5	156.3	156.1	155.9
115°	182.8	182.7	182.6	182.4	182.1	181.8	181.5	181.2
117.5°	207.4	207.1	206.9	206.6	206.3	206.0	205.7	205.4
120°	223.8	223.8	223.8	223.7	223.4	223.1	222.8	222.5
122.5°	240.7	240.5	240.2	240.0	239.8	239.6	239.3	239.1
125°	265.8	265.5	265.2	265.0	264.9	264.8	264.7	264.6
127.5°	290.1	289.8	289.4	289.1	288.7	288.4	288.1	287.8
130°	306.8	306.6	306.4	306.1	305.7	305.3	304.9	304.5
132.5°	323.0	322.5	322.1	321.7	321.4	321.0	320.7	320.4
135°	346.8	346.7	346.6	346.4	346.1	345.8	345.5	345.2
137.5°	369.7	369.6	369.6	369.3	368.9	368.5	368.1	367.7
140°	385.1	385.1	385.1	384.9	384.5	384.1	383.7	383.3
142.5°	399.0	399.1	399.2	399.0	398.6	398.2	397.8	397.4
145°	420.2	420.3	420.4	420.2	419.8	419.4	419.0	418.6
147.5°	438.7	439.0	439.2	439.1	438.7	438.3	437.9	437.6
150°	450.5	450.8	451.1	451.1	450.8	450.5	450.2	449.9
152.5°	462.2	462.6	463.0	463.0	462.6	462.2	461.9	461.5
155°	477.2	477.7	478.2	478.3	478.0	477.7	477.4	477.1
157.5°	490.9	491.6	492.3	492.4	491.9	491.4	491.0	490.5
160°	499.1	499.7	500.3	500.4	500.0	499.6	499.2	498.8
162.5°	506.5	507.2	507.9	508.0	507.5	507.0	506.5	506.1
165°	516.1	516.8	517.5	517.6	517.1	516.6	516.1	515.6
167.5°	524.0	524.7	525.4	525.5	524.9	524.4	523.9	523.4
170°	528.3	529.0	529.7	529.8	529.2	528.6	528.0	527.4
172.5°	531.6	532.3	533.0	533.0	532.4	531.8	531.2	530.6
175°	535.1	535.8	536.5	536.6	536.0	535.4	534.8	534.2
177.5°	536.8	537.2	537.7	537.7	537.2	536.8	536.3	535.8
180°	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9

(END OF REPORT)