

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: P331590-840

Luminaire Tested: **S122DIW-S1005D435U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331590-840
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-S1005D435U840-4F0-1E-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: 5613.1 lumens
Efficiency: N/A
Efficacy: 107.1 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

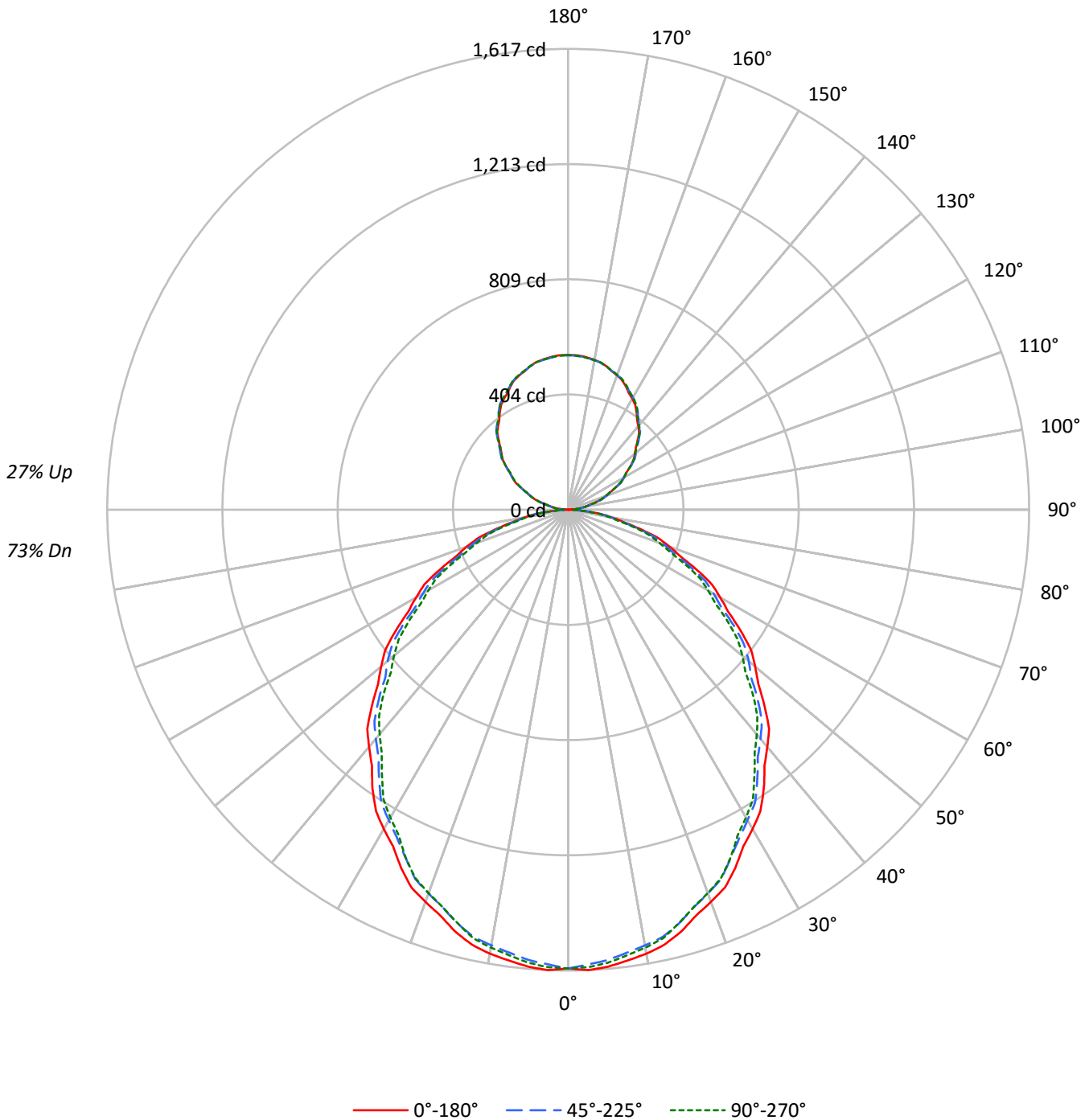
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	25987	25987	25987
5°	26086	25710	25861
10°	25932	25450	25576
15°	25611	25120	25095
20°	25156	24624	24598
25°	24704	24015	24015
30°	24121	23457	23256
35°	23580	22787	22450
40°	22898	22118	21692
45°	22229	21450	20922
50°	21499	20760	20022
55°	20738	19952	19212
60°	19888	18991	18290
65°	18980	18032	17207
70°	17825	16877	16074
75°	16220	15540	15159
80°	14393	13966	13240
85°	11745	11189	10022



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.3	2.7
10°-20°	425.9	7.6
20°-30°	626.0	11.2
30°-40°	727.1	13.0
40°-50°	726.3	12.9
50°-60°	633.4	11.3
60°-70°	468.3	8.3
70°-80°	265.3	4.7
80°-90°	73.5	1.3
90°-100°	34.4	0.6
100°-110°	106.7	1.9
110°-120°	182.4	3.2
120°-130°	239.9	4.3
130°-140°	269.2	4.8
140°-150°	263.9	4.7
150°-160°	221.4	3.9
160°-170°	146.8	2.6
170°-180°	51.3	0.9
0°-30°	1203.2	21.4
0°-40°	1930.3	34.4
0°-60°	3290.0	58.6
0°-90°	4097.1	73.0
90°-120°	323.4	5.8
90°-150°	1096.4	19.5
90°-180°	1516.0	27.0
0°-180°	5613.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1610	1610	1610	1610	1610	
5°	1610	1603	1586	1598	1596	153
15°	1532	1522	1503	1508	1501	431
25°	1387	1374	1348	1351	1348	638
35°	1196	1180	1156	1147	1139	747
45°	974	962	939	923	916	751
55°	737	727	709	691	682	658
65°	497	487	472	458	450	491
75°	260	257	249	241	243	278
85°	63	62	60	56	54	73
90°	0	6	16	15	16	4
95°	24	28	29	29	28	27
105°	98	100	101	102	102	104
115°	183	186	185	184	183	181
125°	266	270	269	268	267	238
135°	345	349	350	350	349	266
145°	418	421	424	424	423	261
155°	478	480	481	483	482	220
165°	520	520	520	523	521	147
175°	541	540	539	542	540	51
180°	542	542	542	542	542	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1617.0	1615.6	1614.3	1612.9	1611.4	1609.3	1606.3	1603.3	1600.2	1597.2	1599.9
5°	1609.5	1608.2	1606.8	1605.4	1604.1	1601.4	1597.7	1593.9	1590.1	1586.3	1589.1
7.5°	1595.3	1593.2	1591.0	1588.9	1586.8	1583.8	1579.9	1576.1	1572.3	1568.4	1571.1
10°	1581.7	1579.3	1576.9	1574.5	1572.1	1568.8	1564.7	1560.5	1556.4	1552.3	1555.1
12.5°	1563.2	1560.9	1558.8	1556.7	1554.6	1551.5	1547.3	1543.2	1539.1	1535.0	1536.9
15°	1532.2	1530.1	1528.0	1526.0	1523.9	1520.7	1516.2	1511.7	1507.2	1502.8	1504.2
17.5°	1492.6	1490.5	1488.4	1486.3	1484.3	1481.0	1476.4	1471.9	1467.3	1462.9	1464.4
20°	1464.1	1462.0	1460.0	1457.8	1455.8	1452.4	1447.5	1442.8	1437.9	1433.1	1434.1
22.5°	1435.6	1432.7	1429.9	1426.9	1424.0	1420.4	1415.8	1411.3	1406.7	1402.2	1402.4
25°	1386.7	1383.9	1381.2	1378.5	1375.7	1371.4	1365.5	1359.7	1353.8	1348.0	1348.7
27.5°	1331.0	1328.5	1326.1	1323.5	1321.1	1317.6	1312.9	1308.3	1303.7	1299.1	1298.1
30°	1293.8	1291.1	1288.3	1285.6	1282.8	1278.9	1273.7	1268.6	1263.4	1258.2	1257.2
32.5°	1254.3	1252.0	1249.8	1247.6	1245.4	1241.6	1236.2	1230.7	1225.3	1219.8	1218.0
35°	1196.3	1192.9	1189.4	1186.0	1182.6	1178.1	1172.6	1167.1	1161.6	1156.1	1154.1
37.5°	1131.0	1128.0	1125.0	1122.0	1118.9	1114.7	1109.1	1103.7	1098.1	1092.7	1090.0
40°	1086.4	1083.7	1081.0	1078.2	1075.4	1071.4	1065.8	1060.4	1054.8	1049.4	1046.2
42.5°	1043.1	1040.4	1037.6	1034.9	1032.1	1027.9	1022.5	1016.9	1011.5	1005.9	1002.6
45°	973.5	971.1	968.7	966.2	963.8	960.1	954.9	949.8	944.6	939.4	935.6
47.5°	904.1	901.9	899.6	897.4	895.0	891.2	885.9	880.5	875.1	869.8	865.8
50°	855.9	854.1	852.4	850.7	849.0	845.7	840.9	836.1	831.2	826.5	821.6
52.5°	808.8	806.6	804.3	802.0	799.7	796.3	791.7	787.2	782.7	778.2	774.2
55°	736.7	734.6	732.6	730.5	728.4	725.3	721.2	717.1	713.0	708.8	704.7
57.5°	664.3	662.6	661.0	659.3	657.6	654.6	650.1	645.5	641.0	636.4	632.4
60°	615.9	614.6	613.2	611.9	610.5	607.3	602.6	597.7	592.9	588.1	584.3
62.5°	569.0	566.7	564.5	562.3	560.1	557.1	553.4	549.8	546.0	542.3	538.8
65°	496.8	494.7	492.7	490.6	488.6	485.7	482.3	478.9	475.4	472.0	469.0
67.5°	423.4	421.8	420.1	418.5	416.9	414.4	411.3	408.3	405.2	402.1	399.7
70°	377.6	376.3	374.9	373.5	372.1	369.9	366.8	363.7	360.6	357.5	355.1
72.5°	330.5	329.2	327.8	326.5	325.1	323.4	321.4	319.4	317.4	315.4	313.0
75°	260.0	259.3	258.6	257.9	257.2	256.0	254.3	252.6	250.9	249.1	247.1
77.5°	196.8	195.7	194.5	193.4	192.2	191.3	190.6	189.9	189.1	188.5	187.4
80°	154.8	154.4	154.1	153.7	153.4	152.9	152.2	151.5	150.8	150.2	149.1
82.5°	115.1	115.1	115.0	114.9	114.8	114.6	114.2	113.8	113.4	113.0	111.7
85°	63.4	63.1	62.8	62.4	62.1	61.7	61.4	61.0	60.7	60.4	59.3
87.5°	22.4	22.1	21.8	21.4	21.1	20.9	20.8	20.7	20.6	20.5	19.7
90°	0.5	1.7	2.9	4.1	5.4	7.1	9.3	11.5	13.7	16.1	15.9
92.5°	8.2	9.1	9.9	10.8	11.7	12.4	12.9	13.5	14.0	14.5	14.5
95°	23.8	24.8	25.9	26.9	27.9	28.5	28.7	28.9	29.1	29.3	29.3
97.5°	43.4	44.3	45.2	46.2	47.1	47.7	48.1	48.5	48.9	49.2	49.2
100°	58.1	58.9	59.7	60.6	61.4	61.9	62.2	62.5	62.8	63.1	63.1
102.5°	73.5	74.1	74.7	75.4	76.0	76.6	77.0	77.4	77.8	78.2	78.3
105°	98.4	98.7	99.0	99.3	99.6	99.9	100.1	100.3	100.5	100.7	100.9
107.5°	123.4	123.9	124.3	124.8	125.2	125.4	125.4	125.4	125.4	125.4	125.5
110°	139.6	140.2	140.8	141.4	142.0	142.3	142.3	142.3	142.3	142.3	142.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	157.1	157.7	158.3	159.0	159.6	159.9	159.8	159.7	159.6	159.5	159.3
115°	183.0	183.6	184.2	184.8	185.4	185.6	185.4	185.2	185.0	184.8	184.7
117.5°	208.8	209.6	210.5	211.3	212.1	212.2	211.7	211.1	210.5	210.0	209.6
120°	226.0	226.8	227.6	228.4	229.2	229.2	228.4	227.6	226.8	226.0	226.0
122.5°	241.8	242.8	243.7	244.7	245.7	245.9	245.3	244.7	244.2	243.6	243.4
125°	266.3	267.2	268.1	269.0	269.9	270.2	269.9	269.6	269.3	269.0	268.7
127.5°	290.1	291.3	292.5	293.7	294.8	295.2	294.9	294.5	294.1	293.8	293.4
130°	305.2	306.5	307.8	309.1	310.4	311.0	310.8	310.6	310.4	310.2	310.0
132.5°	322.0	323.1	324.2	325.3	326.3	326.9	326.9	327.0	327.0	327.0	326.6
135°	344.6	345.7	346.8	347.9	349.0	349.6	349.8	350.0	350.2	350.4	350.3
137.5°	368.2	369.1	370.0	370.9	371.8	372.4	372.7	373.0	373.2	373.5	373.4
140°	382.5	383.4	384.4	385.3	386.2	386.9	387.4	387.9	388.4	388.9	388.9
142.5°	397.2	398.1	399.0	399.9	400.8	401.4	401.7	402.1	402.4	402.8	402.9
145°	418.2	418.9	419.6	420.3	421.0	421.7	422.3	422.9	423.5	424.1	424.2
147.5°	437.0	437.8	438.7	439.5	440.4	441.0	441.4	441.8	442.2	442.6	442.8
150°	449.8	450.4	451.0	451.6	452.2	452.7	453.1	453.5	453.9	454.3	454.6
152.5°	461.1	461.7	462.3	462.9	463.5	464.1	464.5	465.0	465.5	466.1	466.5
155°	478.1	478.4	478.7	479.1	479.4	479.7	480.0	480.3	480.6	480.9	481.4
157.5°	492.7	492.9	493.1	493.3	493.5	493.6	493.8	494.0	494.2	494.4	495.1
160°	501.5	501.7	501.9	502.1	502.3	502.4	502.5	502.6	502.7	502.8	503.4
162.5°	509.5	509.6	509.6	509.6	509.7	509.8	509.9	510.0	510.1	510.2	510.8
165°	520.2	520.1	520.0	519.9	519.8	519.8	519.8	519.8	519.8	519.8	520.5
167.5°	529.2	528.9	528.6	528.3	528.0	527.8	527.8	527.8	527.8	527.8	528.5
170°	533.9	533.6	533.3	533.0	532.7	532.5	532.4	532.3	532.2	532.1	532.8
172.5°	537.2	536.9	536.6	536.3	536.0	535.8	535.7	535.6	535.5	535.4	536.1
175°	541.3	541.0	540.7	540.4	540.1	539.8	539.6	539.4	539.2	539.0	539.7
177.5°	542.9	542.7	542.4	542.2	541.9	541.7	541.6	541.4	541.2	541.1	541.6
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1602.7	1605.4	1608.2	1609.3	1608.7	1608.2	1607.6	1607.1
5°	1591.9	1594.6	1597.3	1598.4	1597.7	1597.0	1596.3	1595.6
7.5°	1573.9	1576.6	1579.4	1580.4	1579.6	1578.9	1578.1	1577.4
10°	1557.8	1560.5	1563.3	1564.2	1563.2	1562.1	1561.0	1560.0
12.5°	1538.8	1540.8	1542.7	1543.3	1542.5	1541.8	1541.0	1540.2
15°	1505.5	1506.9	1508.2	1508.1	1506.4	1504.7	1503.0	1501.3
17.5°	1466.0	1467.6	1469.2	1469.2	1467.4	1465.8	1464.2	1462.5
20°	1435.2	1436.2	1437.2	1437.0	1435.7	1434.3	1433.0	1431.6
22.5°	1402.6	1402.8	1403.0	1402.7	1401.9	1401.1	1400.2	1399.4
25°	1349.4	1350.1	1350.8	1350.8	1350.1	1349.4	1348.7	1348.0
27.5°	1297.1	1296.0	1294.9	1293.6	1292.0	1290.3	1288.7	1287.1
30°	1256.2	1255.2	1254.2	1252.9	1251.5	1250.1	1248.8	1247.4
32.5°	1216.2	1214.3	1212.4	1210.8	1209.4	1208.1	1206.7	1205.3
35°	1152.0	1149.9	1147.8	1146.0	1144.3	1142.6	1140.7	1139.0
37.5°	1087.5	1085.0	1082.5	1080.4	1078.7	1077.0	1075.4	1073.8
40°	1043.1	1040.1	1036.9	1034.7	1033.3	1032.0	1030.6	1029.2
42.5°	999.3	995.8	992.5	989.9	988.0	986.0	984.1	982.1
45°	931.9	928.1	924.3	921.7	920.3	919.0	917.6	916.3
47.5°	861.8	857.8	853.8	850.8	848.8	846.9	844.9	842.8
50°	816.8	812.0	807.2	804.0	802.2	800.5	798.8	797.1
52.5°	770.2	766.2	762.2	759.1	756.8	754.6	752.2	750.0
55°	700.5	696.4	692.4	689.4	687.7	686.0	684.3	682.5
57.5°	628.2	624.2	620.2	617.4	616.2	614.9	613.6	612.3
60°	580.6	576.7	573.0	570.6	569.6	568.6	567.4	566.4
62.5°	535.3	531.8	528.3	525.8	524.5	523.2	521.9	520.6
65°	465.9	462.7	459.7	457.3	455.6	453.8	452.1	450.4
67.5°	397.3	394.9	392.4	390.5	389.2	387.8	386.5	385.1
70°	352.6	350.3	347.9	346.0	344.6	343.3	341.8	340.5
72.5°	310.6	308.2	305.8	304.1	303.0	301.8	300.7	299.6
75°	245.1	243.0	241.0	240.2	241.0	241.6	242.3	243.0
77.5°	186.4	185.4	184.4	183.4	182.4	181.5	180.5	179.6
80°	148.0	147.0	146.0	145.1	144.4	143.8	143.1	142.4
82.5°	110.4	109.1	107.8	107.0	106.8	106.7	106.6	106.4
85°	58.3	57.3	56.2	55.5	55.2	54.8	54.5	54.1
87.5°	18.8	18.0	17.1	16.6	16.3	16.0	15.8	15.5
90°	15.7	15.5	15.2	15.1	15.2	15.3	15.5	15.6
92.5°	14.6	14.6	14.7	14.7	14.7	14.7	14.8	14.8
95°	29.3	29.3	29.3	29.2	29.0	28.8	28.6	28.4
97.5°	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2
100°	63.1	63.1	63.1	63.1	63.0	62.9	62.8	62.7
102.5°	78.3	78.4	78.5	78.5	78.4	78.3	78.2	78.1
105°	101.1	101.3	101.5	101.6	101.6	101.6	101.6	101.6
107.5°	125.6	125.7	125.8	125.6	125.1	124.6	124.2	123.7
110°	142.3	142.3	142.3	142.1	141.8	141.5	141.2	140.9



TEST NUMBER: P331590-840

CATALOG NUMBER: S122DIW-S1005D435U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	159.1	158.8	158.5	158.2	158.0	157.8	157.6	157.4
115°	184.6	184.5	184.4	184.2	183.9	183.6	183.3	183.0
117.5°	209.4	209.1	208.9	208.6	208.3	208.0	207.7	207.4
120°	226.0	226.0	226.0	225.9	225.6	225.3	225.0	224.7
122.5°	243.1	242.9	242.6	242.4	242.2	242.0	241.7	241.5
125°	268.4	268.1	267.8	267.6	267.5	267.4	267.3	267.2
127.5°	293.0	292.7	292.3	292.0	291.5	291.2	290.9	290.6
130°	309.8	309.6	309.4	309.1	308.7	308.3	307.9	307.5
132.5°	326.2	325.7	325.3	324.9	324.6	324.2	323.9	323.6
135°	350.2	350.1	350.0	349.8	349.5	349.2	348.9	348.6
137.5°	373.3	373.2	373.2	372.9	372.5	372.1	371.7	371.3
140°	388.9	388.9	388.9	388.7	388.3	387.9	387.5	387.1
142.5°	402.9	403.0	403.1	402.9	402.5	402.1	401.7	401.3
145°	424.3	424.4	424.5	424.3	423.9	423.5	423.1	422.7
147.5°	443.0	443.3	443.5	443.4	443.0	442.6	442.2	441.9
150°	454.9	455.2	455.6	455.6	455.2	454.9	454.6	454.3
152.5°	466.8	467.2	467.6	467.6	467.2	466.8	466.5	466.1
155°	481.9	482.4	482.9	483.0	482.7	482.4	482.1	481.8
157.5°	495.7	496.4	497.2	497.3	496.8	496.2	495.8	495.3
160°	504.0	504.6	505.2	505.3	504.9	504.5	504.1	503.7
162.5°	511.5	512.2	512.9	513.0	512.5	512.0	511.5	511.1
165°	521.2	521.9	522.6	522.7	522.2	521.7	521.2	520.7
167.5°	529.2	529.9	530.6	530.7	530.1	529.6	529.1	528.6
170°	533.5	534.2	534.9	535.0	534.4	533.8	533.2	532.6
172.5°	536.8	537.6	538.3	538.3	537.7	537.0	536.4	535.8
175°	540.4	541.1	541.8	541.9	541.3	540.7	540.1	539.5
177.5°	542.1	542.5	543.0	543.0	542.5	542.1	541.6	541.1
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2

(END OF REPORT)