

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: P331828-840

Luminaire Tested: **S122RDIW-S865D435U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331828-840
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: S122RDIW-S865D435U840-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4563.6 lumens
Efficiency: N/A
Efficacy: 98.8 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-Direct

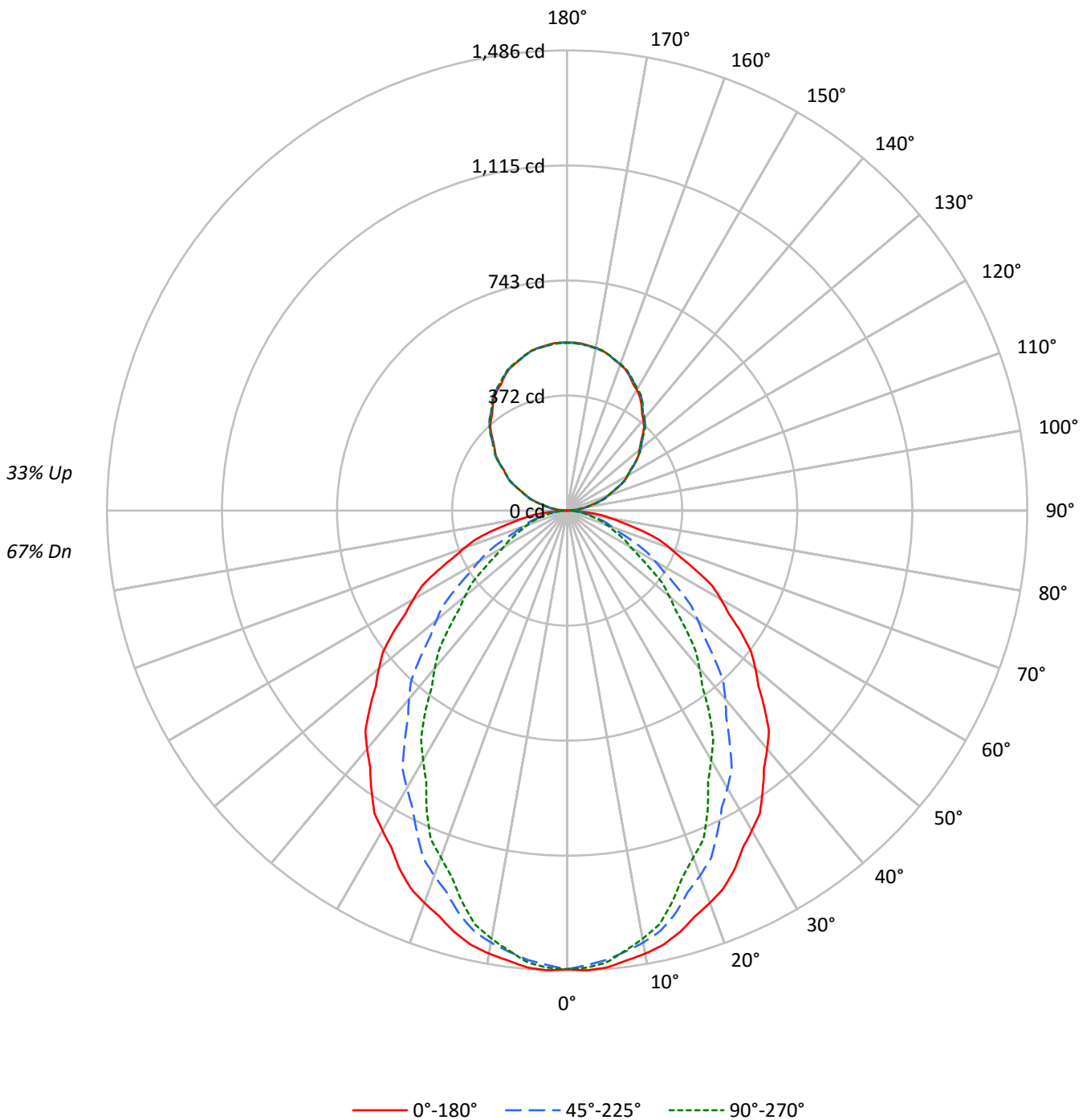
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67								
1	102	98	94	91	96	93	89	86	82	80	78	73	71	69	64	63	62	58								
2	94	86	80	75	88	82	76	72	73	69	65	65	62	59	57	55	53	49								
3	86	77	69	64	81	72	66	61	65	60	56	58	54	51	51	48	46	42								
4	79	68	60	54	74	65	58	52	58	53	48	52	48	44	46	43	40	37								
5	73	61	53	47	68	58	51	45	52	47	42	47	42	39	42	38	35	33								
6	67	55	47	41	63	53	45	40	48	42	37	43	38	34	38	35	31	29								
7	62	50	42	37	59	48	41	35	43	37	33	39	34	31	35	31	28	26								
8	58	46	38	33	55	44	37	32	40	34	30	36	31	28	33	29	26	23								
9	54	42	35	30	51	40	33	29	37	31	27	33	29	25	30	26	23	21								
10	51	39	32	27	48	37	30	26	34	28	24	31	26	23	28	24	21	19								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23909	23909	23909
5°	24000	23608	23738
10°	23815	23222	23023
15°	23542	22534	21884
20°	23163	21551	20469
25°	22775	20436	19099
30°	22236	19287	17339
35°	21711	18039	15794
40°	21182	16750	14010
45°	20562	15299	12392
50°	19926	13835	10803
55°	19277	12262	9278
60°	18519	10601	7702
65°	17662	8909	7014
70°	16636	7336	6449
75°	15384	6687	6014
80°	13575	5979	5486
85°	10689	4705	4705



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	3.0
10°-20°	380.6	8.3
20°-30°	534.4	11.7
30°-40°	582.7	12.8
40°-50°	535.8	11.7
50°-60°	420.8	9.2
60°-70°	274.4	6.0
70°-80°	141.5	3.1
80°-90°	38.9	0.9
90°-100°	34.4	0.8
100°-110°	106.7	2.3
110°-120°	182.4	4.0
120°-130°	239.9	5.3
130°-140°	269.2	5.9
140°-150°	263.9	5.8
150°-160°	221.4	4.9
160°-170°	146.8	3.2
170°-180°	51.3	1.1
0°-30°	1053.6	23.1
0°-40°	1636.3	35.9
0°-60°	2593.0	56.8
0°-90°	3047.7	66.8
90°-120°	323.4	7.1
90°-150°	1096.4	24.0
90°-180°	1516.0	33.2
0°-180°	4563.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1481	1481	1481	1481	1481	
5°	1481	1473	1457	1468	1465	140
15°	1408	1392	1348	1323	1309	397
25°	1278	1233	1147	1094	1072	588
35°	1102	1030	915	834	801	689
45°	900	808	670	578	543	695
55°	685	578	436	358	330	612
65°	462	353	233	190	184	458
75°	247	155	107	98	96	261
85°	58	31	25	25	25	68
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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1486.1	1484.9	1483.7	1482.5	1481.4	1479.5	1476.8	1474.2	1471.6	1468.9	1471.4
5°	1480.8	1479.3	1477.7	1476.2	1474.8	1472.1	1468.2	1464.4	1460.5	1456.6	1459.3
7.5°	1465.4	1463.6	1461.8	1460.0	1458.0	1454.9	1450.4	1445.8	1441.3	1436.7	1437.5
10°	1452.6	1450.5	1448.4	1446.3	1444.2	1440.3	1434.3	1428.4	1422.4	1416.4	1415.5
12.5°	1436.5	1433.9	1431.4	1428.9	1426.2	1421.2	1413.5	1405.9	1398.3	1390.7	1389.1
15°	1408.4	1405.1	1401.8	1398.6	1395.2	1388.6	1378.5	1368.4	1358.2	1348.1	1342.4
17.5°	1373.8	1368.8	1363.8	1358.8	1353.8	1344.8	1331.8	1318.8	1305.9	1292.8	1286.2
20°	1348.1	1342.1	1336.2	1330.2	1324.2	1313.8	1298.9	1284.0	1269.2	1254.3	1246.8
22.5°	1320.2	1313.5	1306.9	1300.2	1293.5	1281.8	1265.0	1248.2	1231.4	1214.6	1205.0
25°	1278.4	1268.9	1259.3	1249.8	1240.3	1225.7	1206.0	1186.4	1166.7	1147.1	1134.9
27.5°	1228.0	1217.6	1207.3	1196.9	1186.6	1170.3	1148.1	1126.0	1103.8	1081.7	1067.4
30°	1192.7	1181.3	1170.0	1158.7	1147.4	1129.8	1106.0	1082.2	1058.3	1034.5	1019.4
32.5°	1158.3	1145.1	1131.9	1118.6	1105.4	1086.7	1062.4	1038.0	1013.8	989.5	972.2
35°	1101.5	1086.3	1071.2	1055.9	1040.8	1020.1	993.8	967.7	941.5	915.2	896.5
37.5°	1044.7	1028.0	1011.4	994.6	978.0	955.6	927.8	899.8	871.9	843.9	823.2
40°	1005.0	987.1	969.3	951.4	933.5	910.2	881.3	852.4	823.5	794.7	773.5
42.5°	964.3	945.4	926.7	907.9	889.0	864.6	834.9	805.0	775.2	745.3	723.5
45°	900.5	880.5	860.6	840.6	820.7	795.1	763.9	732.6	701.3	670.0	648.8
47.5°	838.3	817.2	796.1	774.9	753.8	727.0	694.8	662.5	630.2	597.9	576.9
50°	793.3	772.1	751.0	729.8	708.7	681.8	649.0	616.2	583.5	550.8	530.2
52.5°	749.3	727.2	705.2	683.1	661.0	633.9	601.9	569.8	537.8	505.7	485.8
55°	684.8	661.6	638.3	615.1	591.9	564.1	532.0	499.8	467.7	435.6	417.7
57.5°	618.5	594.7	570.9	547.0	523.3	495.9	464.9	434.0	403.1	372.2	355.9
60°	573.5	549.7	525.9	502.1	478.3	451.0	420.3	389.6	359.0	328.3	313.2
62.5°	529.6	505.7	481.9	458.1	434.2	407.8	378.5	349.3	320.0	290.7	276.3
65°	462.3	438.2	414.0	389.9	365.9	340.3	313.6	286.8	259.9	233.2	223.1
67.5°	397.5	373.5	349.6	325.6	301.6	277.6	253.6	229.4	205.3	181.2	176.5
70°	352.4	329.2	306.0	282.8	259.5	237.6	217.1	196.5	176.0	155.4	152.5
72.5°	309.5	287.3	265.0	242.8	220.5	201.1	184.6	168.0	151.6	135.1	132.6
75°	246.6	225.7	204.9	184.0	163.2	147.7	137.5	127.4	117.3	107.2	105.1
77.5°	184.7	166.3	148.0	129.8	111.5	100.0	95.0	90.2	85.3	80.4	79.2
80°	146.0	130.9	115.7	100.5	85.3	76.2	73.2	70.3	67.3	64.3	63.1
82.5°	110.7	98.9	86.9	75.1	63.3	56.4	54.3	52.3	50.3	48.3	47.6
85°	57.7	51.4	45.1	38.9	32.6	29.1	28.2	27.3	26.4	25.4	25.4
87.5°	17.3	15.6	13.9	12.2	10.6	10.0	10.4	10.9	11.3	11.8	11.5
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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1473.7	1476.1	1478.4	1479.5	1478.9	1478.4	1478.0	1477.5
5°	1462.0	1464.6	1467.3	1468.2	1467.3	1466.4	1465.5	1464.6
7.5°	1438.4	1439.1	1439.9	1439.5	1437.9	1436.4	1434.8	1433.3
10°	1414.6	1413.7	1412.8	1411.5	1409.7	1408.0	1406.1	1404.3
12.5°	1387.5	1385.8	1384.2	1382.0	1379.0	1376.0	1373.0	1370.1
15°	1336.8	1331.1	1325.4	1321.1	1318.2	1315.1	1312.2	1309.2
17.5°	1279.4	1272.6	1266.0	1260.0	1254.9	1249.8	1244.7	1239.5
20°	1239.4	1231.9	1224.5	1217.5	1210.9	1204.4	1197.8	1191.3
22.5°	1195.5	1185.9	1176.3	1169.0	1164.2	1159.2	1154.4	1149.5
25°	1122.7	1110.4	1098.2	1089.8	1085.4	1081.0	1076.5	1072.1
27.5°	1053.2	1038.9	1024.7	1014.1	1007.0	999.9	992.8	985.7
30°	1004.1	989.0	973.7	962.1	954.1	946.0	938.1	930.0
32.5°	954.8	937.5	920.2	907.7	900.2	892.6	885.0	877.5
35°	877.7	859.0	840.2	827.6	821.0	814.5	807.9	801.3
37.5°	802.6	781.9	761.3	747.2	739.7	732.2	724.7	717.2
40°	752.3	731.2	710.0	695.6	687.9	680.1	672.4	664.7
42.5°	701.7	679.7	657.9	643.2	635.7	628.2	620.7	613.2
45°	627.7	606.6	585.4	571.3	564.1	557.0	549.9	542.7
47.5°	555.8	534.8	513.8	500.1	493.6	487.1	480.6	474.1
50°	509.7	489.1	468.6	455.1	448.9	442.6	436.4	430.1
52.5°	466.1	446.3	426.4	413.6	407.8	402.0	396.3	390.5
55°	399.8	381.9	364.1	352.2	346.6	340.9	335.3	329.6
57.5°	339.5	323.2	306.8	296.2	291.4	286.6	281.9	277.1
60°	297.9	282.8	267.5	257.6	252.8	248.0	243.3	238.5
62.5°	261.9	247.4	232.9	224.2	221.4	218.5	215.6	212.8
65°	212.9	202.8	192.7	187.1	186.2	185.4	184.5	183.6
67.5°	171.9	167.2	162.6	159.8	158.9	157.8	156.9	156.0
70°	149.5	146.5	143.5	141.5	140.3	139.1	137.8	136.6
72.5°	130.1	127.5	125.0	123.5	122.7	122.0	121.3	120.6
75°	103.0	101.0	98.9	97.7	97.4	97.0	96.7	96.4
77.5°	78.1	76.9	75.6	74.8	74.3	73.8	73.4	72.9
80°	61.9	60.8	59.6	59.0	59.0	59.0	59.0	59.0
82.5°	46.9	46.0	45.3	45.0	45.0	45.0	45.0	45.0
85°	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
87.5°	11.2	10.9	10.7	10.5	10.6	10.6	10.6	10.6
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: P331828-840

CATALOG NUMBER: S122RDIW-S865D435U840-4F0-1E-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)