

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: P331827-840

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331827-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
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-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4795.1 lumens
Efficiency: N/A
Efficacy: 103.8 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

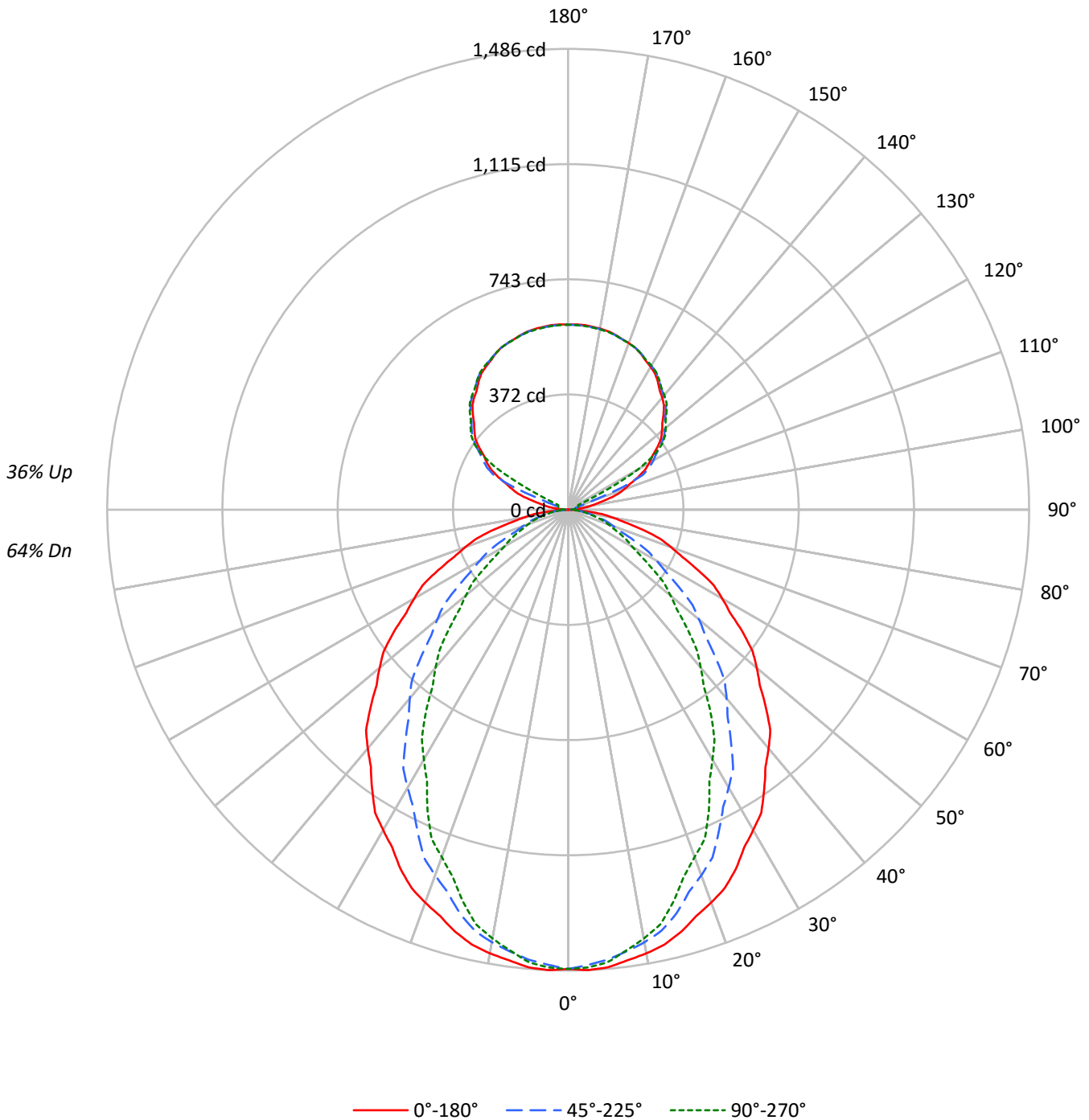
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64					64			
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	62	60	59	55					55			
2	93	86	80	75	87	81	75	71	71	67	64	63	60	57	55	53	51	47					47			
3	85	76	69	63	80	72	65	60	64	59	54	56	52	49	49	46	44	40					40			
4	78	68	60	54	73	64	57	52	57	51	47	50	46	43	44	41	38	35					35			
5	72	61	53	47	68	57	50	45	51	46	41	46	41	37	40	37	34	31					31			
6	67	55	47	41	63	52	45	39	47	41	36	42	37	33	37	33	30	28					28			
7	62	50	42	36	58	47	40	35	42	37	32	38	33	30	34	30	27	25					25			
8	58	45	38	32	54	43	36	31	39	33	29	35	30	27	31	27	24	22					22			
9	54	42	34	29	51	40	33	28	36	30	26	32	28	24	29	25	22	20					20			
10	50	38	31	26	47	37	30	25	33	28	24	30	25	22	27	23	20	18					18			

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	2.9
10°-20°	380.6	7.9
20°-30°	534.4	11.1
30°-40°	582.7	12.2
40°-50°	535.8	11.2
50°-60°	420.8	8.8
60°-70°	274.4	5.7
70°-80°	141.5	2.9
80°-90°	38.2	0.8
90°-100°	19.9	0.4
100°-110°	73.0	1.5
110°-120°	195.0	4.1
120°-130°	322.0	6.7
130°-140°	342.4	7.1
140°-150°	318.3	6.6
150°-160°	255.9	5.3
160°-170°	164.9	3.4
170°-180°	56.8	1.2
0°-30°	1053.6	22.0
0°-40°	1636.3	34.1
0°-60°	2593.0	54.1
0°-90°	3047.0	63.5
90°-120°	287.9	6.0
90°-150°	1270.6	26.5
90°-180°	1748.0	36.5
0°-180°	4795.1	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	5	9	11	12	4
95°	28	15	17	19	19	34
105°	131	137	26	31	33	140
115°	248	256	266	76	35	244
125°	351	357	365	368	369	313
135°	434	441	445	449	448	335
145°	504	504	511	513	512	315
155°	555	551	556	558	555	255
165°	584	582	583	586	583	165
175°	598	595	596	598	594	57
180°	596	596	596	596	596	



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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	13.8	12.1	10.5	9.7	9.8	10.0	10.2	10.3	10.2
90°	0.4	1.5	2.5	3.6	4.6	5.6	6.4	7.1	7.9	8.6	9.1
92.5°	8.7	8.6	8.5	8.4	8.4	8.5	8.9	9.3	9.6	10.0	10.3
95°	28.1	24.8	21.7	18.6	15.3	14.1	14.8	15.5	16.2	16.9	17.3
97.5°	55.6	46.8	37.9	28.9	20.0	16.4	17.9	19.4	21.0	22.5	22.9
100°	76.4	63.2	50.1	37.0	23.8	18.1	19.7	21.3	22.9	24.6	25.3
102.5°	99.2	96.4	93.6	90.9	88.1	79.9	66.2	52.6	39.0	25.2	26.3
105°	131.2	134.1	136.9	139.9	142.7	131.1	104.9	78.7	52.5	26.4	27.4
107.5°	167.7	170.1	172.4	174.7	177.0	162.5	131.1	99.7	68.3	36.9	35.7
110°	191.2	193.2	195.2	197.2	199.2	186.4	158.6	131.0	103.2	75.5	65.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	213.3	215.1	216.9	218.6	220.5	217.9	211.1	204.2	197.3	190.6	155.5
115°	248.2	249.8	251.5	253.1	254.7	256.7	259.1	261.6	263.9	266.3	221.9
117.5°	279.3	281.1	283.0	284.8	286.6	288.4	290.0	291.6	293.4	295.0	284.3
120°	302.2	303.6	305.0	306.5	307.9	309.5	311.2	313.0	314.7	316.4	317.5
122.5°	321.4	323.0	324.5	326.0	327.5	329.2	331.1	333.0	334.9	336.8	337.5
125°	350.9	352.1	353.5	354.7	355.9	357.4	359.3	361.1	362.9	364.8	365.4
127.5°	377.6	379.0	380.3	381.7	383.1	384.5	385.9	387.2	388.6	389.9	390.9
130°	394.6	396.1	397.6	399.1	400.6	401.9	403.0	404.0	405.2	406.2	407.2
132.5°	411.8	413.0	414.3	415.7	417.0	418.2	419.2	420.3	421.3	422.4	423.3
135°	434.2	435.8	437.3	438.8	440.4	441.5	442.4	443.3	444.1	445.0	446.0
137.5°	457.0	458.0	459.1	460.2	461.2	462.2	463.2	464.2	465.1	466.2	467.1
140°	471.8	472.5	473.3	474.0	474.8	475.7	476.9	477.9	478.9	480.0	480.8
142.5°	484.2	484.9	485.5	486.3	487.0	488.0	489.1	490.3	491.5	492.7	493.5
145°	503.7	503.6	503.5	503.4	503.3	504.1	505.7	507.4	509.0	510.6	511.3
147.5°	520.7	520.4	520.0	519.7	519.3	519.9	521.5	523.1	524.7	526.3	526.8
150°	531.8	531.1	530.4	529.8	529.1	529.5	531.1	532.6	534.1	535.6	536.2
152.5°	541.1	540.4	539.6	538.9	538.1	538.5	539.9	541.4	542.8	544.3	544.8
155°	554.6	553.8	552.9	552.1	551.2	551.4	552.5	553.6	554.8	555.9	556.5
157.5°	565.2	564.5	563.8	563.1	562.4	562.4	563.2	564.0	564.8	565.6	566.2
160°	571.5	570.9	570.4	569.8	569.2	569.2	569.8	570.4	570.9	571.5	572.1
162.5°	577.0	576.4	575.8	575.3	574.7	574.7	575.1	575.6	576.1	576.6	577.3
165°	584.4	583.9	583.3	582.7	582.1	582.0	582.3	582.6	582.9	583.1	583.8
167.5°	590.0	589.4	588.9	588.2	587.6	587.5	587.7	588.0	588.3	588.5	589.3
170°	593.1	592.5	591.9	591.4	590.8	590.6	590.8	591.0	591.2	591.4	592.0
172.5°	595.1	594.6	594.0	593.4	592.8	592.7	592.8	593.0	593.2	593.4	594.1
175°	597.8	597.1	596.4	595.8	595.1	594.9	595.1	595.3	595.4	595.6	596.3
177.5°	598.2	597.7	597.1	596.6	596.1	595.8	595.9	596.0	596.1	596.1	596.7
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5



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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°	10.0	9.9	9.7	9.7	9.7	9.8	9.8	9.8
90°	9.6	10.1	10.5	10.9	11.1	11.3	11.5	11.6
92.5°	10.5	10.8	11.0	11.2	11.3	11.4	11.5	11.6
95°	17.8	18.3	18.8	19.0	18.9	18.8	18.7	18.6
97.5°	23.3	23.7	24.0	24.3	24.4	24.5	24.6	24.7
100°	26.2	26.9	27.7	28.2	28.4	28.6	28.7	28.9
102.5°	27.3	28.3	29.3	29.9	30.2	30.5	30.7	31.0
105°	28.5	29.5	30.6	31.3	31.6	32.0	32.4	32.8
107.5°	34.7	33.6	32.5	32.2	32.6	33.0	33.3	33.7
110°	56.4	46.8	37.2	32.5	32.9	33.3	33.7	34.1



TEST NUMBER: P331827-840

CATALOG NUMBER: S122RDIW-S865D435U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	120.6	85.5	50.6	33.2	33.5	33.8	34.1	34.4
115°	177.5	133.1	88.7	63.0	56.1	49.2	42.3	35.3
117.5°	273.5	262.8	252.0	235.3	212.6	189.9	167.2	144.5
120°	318.7	319.8	321.0	315.1	302.2	289.2	276.2	263.3
122.5°	338.1	338.8	339.5	338.6	336.1	333.6	331.0	328.5
125°	366.1	366.8	367.4	367.9	368.2	368.5	368.8	369.0
127.5°	391.9	392.8	393.8	394.4	394.5	394.5	394.6	394.6
130°	408.3	409.3	410.4	410.9	410.8	410.7	410.6	410.5
132.5°	424.2	425.1	426.0	426.4	426.3	426.2	426.2	426.1
135°	447.0	447.9	448.9	449.2	449.1	448.9	448.7	448.5
137.5°	468.1	469.0	469.9	470.2	469.9	469.6	469.3	468.9
140°	481.7	482.6	483.4	483.6	483.1	482.6	482.2	481.7
142.5°	494.3	495.1	495.9	496.0	495.5	495.1	494.6	494.1
145°	512.0	512.6	513.3	513.4	512.9	512.4	512.0	511.5
147.5°	527.4	527.9	528.4	528.4	528.0	527.6	527.1	526.7
150°	536.8	537.3	538.0	538.1	537.6	537.0	536.5	536.1
152.5°	545.4	546.0	546.6	546.5	545.9	545.3	544.6	544.0
155°	557.1	557.6	558.3	558.2	557.3	556.6	555.8	555.1
157.5°	566.9	567.5	568.3	568.2	567.4	566.6	565.9	565.2
160°	572.6	573.2	573.8	573.7	573.1	572.4	571.7	571.1
162.5°	577.9	578.7	579.3	579.2	578.3	577.5	576.7	575.9
165°	584.5	585.1	585.8	585.8	585.1	584.5	583.8	583.1
167.5°	590.0	590.6	591.3	591.2	590.3	589.5	588.5	587.7
170°	592.7	593.4	594.0	593.9	593.1	592.2	591.4	590.5
172.5°	594.7	595.4	596.1	596.0	595.1	594.3	593.4	592.6
175°	597.0	597.6	598.3	598.2	597.2	596.3	595.3	594.4
177.5°	597.2	597.7	598.3	598.2	597.5	596.8	596.1	595.5
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5

(END OF REPORT)