

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: P331851-940

Luminaire Tested: **S122RDIW-S1005D710U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331851-940  
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-S1005D710U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 710 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5636.1 lumens  
Efficiency: N/A  
Efficacy: 94.2 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: General Diffuse

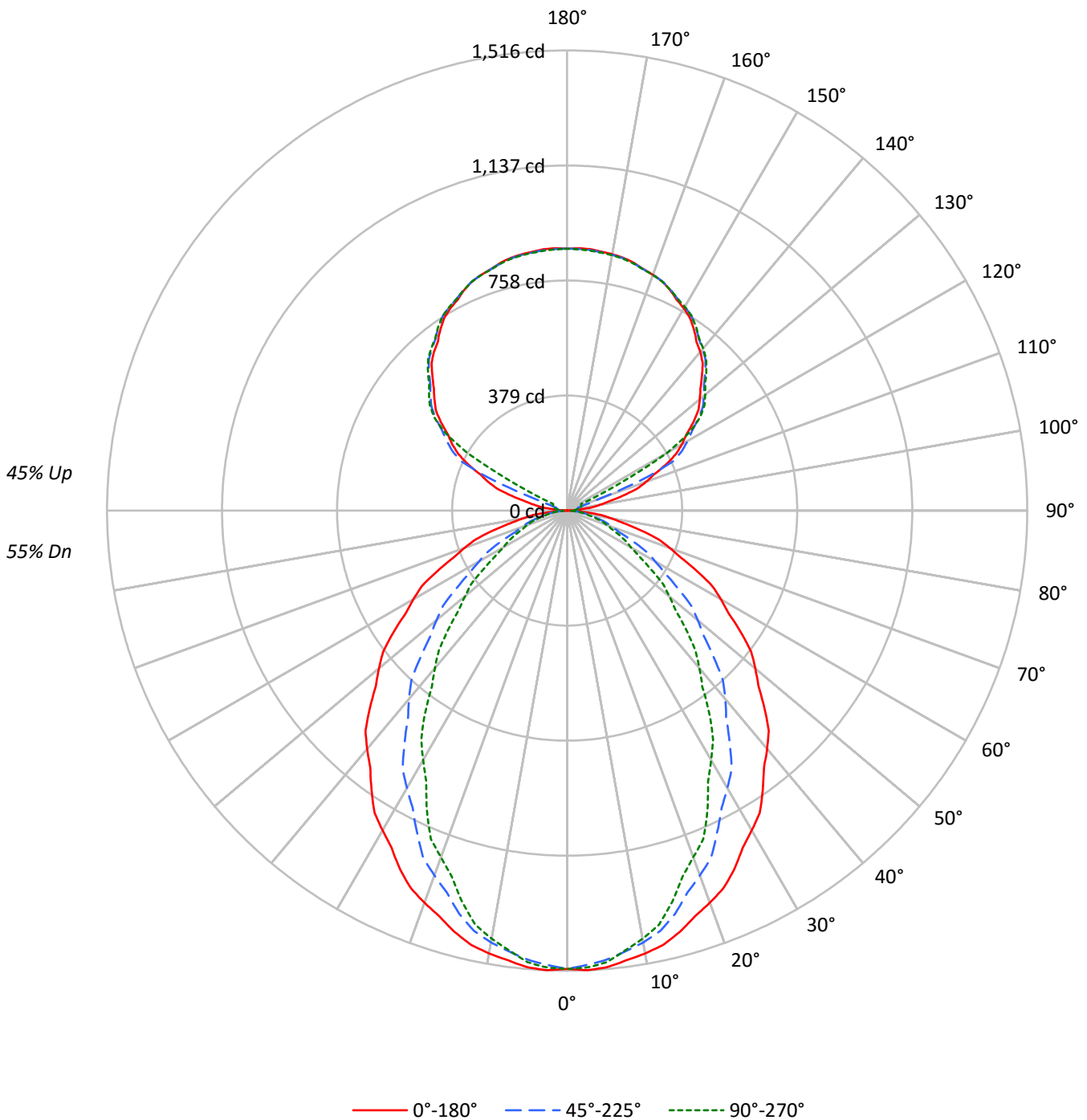
Input Watts (W): 59.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	92	88	92	89	85	83	76	74	72	65	63	62	55	53	52	47
2	91	84	78	73	84	78	73	69	68	64	60	58	55	52	49	47	45	41
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	41	39	35
4	77	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	31
5	70	59	51	45	65	55	48	43	48	43	39	42	38	34	36	33	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	34	30	33	29	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24	21
8	56	44	36	31	52	41	35	30	37	31	27	32	28	24	28	24	22	19
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	26	22	20	18
10	49	37	30	25	46	35	29	24	31	26	22	27	23	20	24	20	18	16

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	24380	24380	24380
5°	24473	24076	24209
10°	24287	23682	23481
15°	24008	22980	22318
20°	23622	21978	20874
25°	23225	20838	19475
30°	22676	19669	17682
35°	22141	18398	16109
40°	21602	17081	14286
45°	20970	15602	12638
50°	20321	14109	11017
55°	19657	12504	9464
60°	18887	10811	7857
65°	18010	9085	7156
70°	16966	7482	6581
75°	15689	6818	6138
80°	13845	6100	5588
85°	10893	4798	4798



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.3	2.5
10°-20°	388.1	6.9
20°-30°	545.0	9.7
30°-40°	594.3	10.5
40°-50°	546.4	9.7
50°-60°	429.2	7.6
60°-70°	279.8	5.0
70°-80°	144.3	2.6
80°-90°	39.5	0.7
90°-100°	28.8	0.5
100°-110°	105.5	1.9
110°-120°	282.1	5.0
120°-130°	465.6	8.3
130°-140°	495.2	8.8
140°-150°	460.3	8.2
150°-160°	370.1	6.6
160°-170°	238.5	4.2
170°-180°	82.1	1.5
0°-30°	1074.4	19.1
0°-40°	1668.7	29.6
0°-60°	2644.3	46.9
0°-90°	3107.9	55.1
90°-120°	416.4	7.4
90°-150°	1837.6	32.6
90°-180°	2528.0	44.9
0°-180°	5636.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1510	1510	1510	1510	1510	
5°	1510	1503	1486	1497	1494	143
15°	1436	1419	1375	1350	1335	404
25°	1304	1257	1170	1116	1093	599
35°	1123	1051	933	850	817	703
45°	918	824	683	590	554	709
55°	698	589	444	365	336	624
65°	471	360	238	194	187	467
75°	252	158	109	100	98	266
85°	59	31	26	26	26	69
90°	1	7	12	16	17	4
95°	41	21	24	27	27	50
105°	190	198	38	45	47	203
115°	359	370	385	110	51	353
125°	508	516	527	532	534	452
135°	628	638	644	649	649	485
145°	728	728	738	742	740	455
155°	802	797	804	807	803	369
165°	845	842	843	847	843	239
175°	865	860	862	865	860	82
180°	863	863	863	863	863	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1515.6	1514.3	1513.1	1511.9	1510.6	1508.7	1506.0	1503.4	1500.7	1498.1	1500.5
5°	1510.0	1508.5	1507.0	1505.5	1504.0	1501.3	1497.3	1493.3	1489.4	1485.5	1488.2
7.5°	1494.5	1492.6	1490.8	1488.8	1486.9	1483.7	1479.1	1474.4	1469.9	1465.3	1466.1
10°	1481.4	1479.3	1477.1	1475.0	1472.8	1468.7	1462.7	1456.6	1450.5	1444.5	1443.6
12.5°	1465.0	1462.3	1459.7	1457.1	1454.6	1449.3	1441.5	1433.8	1426.0	1418.3	1416.6
15°	1436.3	1432.9	1429.6	1426.2	1422.9	1416.0	1405.8	1395.4	1385.1	1374.8	1369.0
17.5°	1401.0	1395.9	1390.8	1385.7	1380.6	1371.5	1358.2	1345.0	1331.7	1318.5	1311.6
20°	1374.8	1368.7	1362.6	1356.6	1350.5	1339.9	1324.6	1309.5	1294.3	1279.1	1271.5
22.5°	1346.3	1339.5	1332.8	1326.0	1319.1	1307.2	1290.0	1272.9	1255.8	1238.7	1228.9
25°	1303.7	1294.0	1284.2	1274.5	1264.8	1250.0	1229.9	1209.9	1189.8	1169.7	1157.4
27.5°	1252.3	1241.8	1231.2	1220.7	1210.1	1193.5	1170.9	1148.3	1125.7	1103.1	1088.6
30°	1216.3	1204.7	1193.2	1181.6	1170.1	1152.2	1127.8	1103.6	1079.3	1055.0	1039.5
32.5°	1181.2	1167.8	1154.3	1140.9	1127.3	1108.2	1083.4	1058.6	1033.8	1009.1	991.4
35°	1123.3	1107.9	1092.3	1076.8	1061.4	1040.3	1013.5	986.9	960.1	933.4	914.3
37.5°	1065.4	1048.4	1031.4	1014.3	997.4	974.6	946.1	917.7	889.1	860.7	839.6
40°	1024.9	1006.7	988.5	970.3	952.1	928.2	898.8	869.3	839.8	810.4	788.8
42.5°	983.4	964.2	945.0	925.8	906.6	881.8	851.4	820.9	790.5	760.1	737.8
45°	918.4	898.0	877.6	857.3	837.0	810.8	778.9	747.1	715.2	683.3	661.7
47.5°	854.9	833.4	811.8	790.2	768.7	741.5	708.6	675.6	642.7	609.8	588.4
50°	809.0	787.5	765.9	744.3	722.7	695.3	661.9	628.5	595.0	561.7	540.7
52.5°	764.2	741.6	719.2	696.6	674.0	646.5	613.8	581.1	548.4	515.8	495.5
55°	698.3	674.7	650.9	627.2	603.6	575.3	542.5	509.7	477.0	444.2	425.9
57.5°	630.8	606.5	582.2	557.9	533.6	505.7	474.2	442.6	411.2	379.6	362.9
60°	584.9	560.6	536.3	512.0	487.7	459.9	428.6	397.3	366.0	334.8	319.3
62.5°	540.1	515.8	491.5	467.2	442.9	415.8	386.0	356.1	326.4	296.6	281.8
65°	471.4	446.8	422.3	397.7	373.1	347.1	319.8	292.5	265.1	237.8	227.5
67.5°	405.3	380.9	356.5	332.1	307.6	283.1	258.6	234.0	209.4	184.8	180.0
70°	359.4	335.7	312.0	288.4	264.7	242.4	221.4	200.5	179.5	158.5	155.5
72.5°	315.7	292.9	270.3	247.5	224.8	205.0	188.2	171.4	154.5	137.8	135.2
75°	251.5	230.2	208.9	187.7	166.4	150.6	140.3	130.0	119.7	109.3	107.2
77.5°	188.3	169.7	151.1	132.4	113.7	101.9	96.9	91.9	86.9	82.0	80.8
80°	148.9	133.5	118.0	102.5	87.0	77.8	74.7	71.7	68.7	65.6	64.4
82.5°	112.9	100.8	88.7	76.6	64.6	57.4	55.4	53.3	51.3	49.2	48.5
85°	58.8	52.3	46.0	39.6	33.3	29.6	28.7	27.8	26.8	25.9	25.9
87.5°	17.7	16.0	14.4	12.7	11.1	10.3	10.6	10.8	11.1	11.2	11.1
90°	0.6	2.1	3.7	5.2	6.7	8.0	9.2	10.3	11.4	12.5	13.2
92.5°	12.6	12.5	12.3	12.2	12.0	12.3	12.8	13.4	13.9	14.4	14.8
95°	40.6	36.0	31.4	26.8	22.3	20.4	21.4	22.4	23.4	24.3	25.1
97.5°	80.5	67.6	54.8	41.8	28.9	23.6	25.9	28.1	30.3	32.5	33.2
100°	110.5	91.5	72.5	53.5	34.5	26.1	28.5	30.9	33.3	35.6	36.6
102.5°	143.5	139.5	135.4	131.3	127.3	115.5	95.8	76.1	56.3	36.6	38.0
105°	189.8	193.9	198.1	202.2	206.4	189.6	151.7	113.8	76.0	38.1	39.6
107.5°	242.5	245.9	249.3	252.6	256.0	235.0	189.6	144.2	98.7	53.3	51.7
110°	276.5	279.5	282.4	285.3	288.2	269.6	229.5	189.4	149.4	109.2	95.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.5	311.1	313.7	316.2	318.8	315.1	305.2	295.3	285.4	275.5	225.0
115°	358.9	361.3	363.6	366.0	368.4	371.3	374.8	378.3	381.7	385.1	320.9
117.5°	404.0	406.6	409.3	411.9	414.6	417.1	419.5	421.9	424.2	426.6	411.1
120°	436.9	439.1	441.1	443.2	445.3	447.5	450.0	452.5	455.0	457.5	459.2
122.5°	464.9	467.2	469.3	471.5	473.7	476.2	478.8	481.6	484.3	487.1	488.0
125°	507.5	509.3	511.1	512.9	514.7	516.9	519.6	522.2	524.9	527.4	528.4
127.5°	546.1	548.0	550.1	552.1	554.1	556.1	558.0	560.0	562.0	563.9	565.3
130°	570.5	572.7	575.0	577.2	579.4	581.3	582.8	584.3	585.9	587.5	589.0
132.5°	595.6	597.4	599.3	601.2	603.1	604.8	606.3	607.8	609.4	610.9	612.2
135°	628.0	630.2	632.4	634.6	636.9	638.6	639.9	641.1	642.4	643.6	645.0
137.5°	660.8	662.4	664.0	665.5	667.0	668.5	669.9	671.4	672.8	674.2	675.6
140°	682.3	683.4	684.5	685.6	686.7	688.0	689.6	691.1	692.6	694.2	695.4
142.5°	700.3	701.2	702.3	703.3	704.3	705.6	707.4	709.2	710.9	712.7	713.8
145°	728.5	728.3	728.3	728.1	727.9	729.1	731.4	733.8	736.1	738.5	739.5
147.5°	753.0	752.6	752.1	751.5	751.0	751.9	754.2	756.5	758.8	761.2	762.0
150°	769.1	768.1	767.1	766.2	765.2	765.8	768.0	770.3	772.5	774.7	775.5
152.5°	782.6	781.5	780.4	779.3	778.2	778.7	780.9	782.9	785.1	787.2	788.0
155°	802.2	800.9	799.7	798.4	797.2	797.4	799.1	800.7	802.4	804.1	804.9
157.5°	817.5	816.5	815.4	814.3	813.3	813.3	814.5	815.6	816.8	818.0	818.9
160°	826.5	825.6	824.8	824.0	823.1	823.1	824.0	824.8	825.6	826.5	827.3
162.5°	834.5	833.7	832.9	832.0	831.2	831.1	831.8	832.6	833.3	834.0	834.9
165°	845.3	844.4	843.6	842.8	841.9	841.7	842.1	842.5	842.9	843.4	844.4
167.5°	853.2	852.4	851.6	850.7	849.9	849.7	850.1	850.4	850.9	851.2	852.2
170°	857.7	856.8	856.0	855.2	854.3	854.1	854.3	854.7	855.0	855.2	856.2
172.5°	860.7	859.9	859.1	858.2	857.4	857.1	857.4	857.6	857.9	858.2	859.2
175°	864.6	863.6	862.6	861.7	860.7	860.3	860.6	860.9	861.2	861.5	862.5
177.5°	865.2	864.4	863.6	862.9	862.1	861.7	861.8	862.0	862.1	862.2	863.0
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1502.9	1505.3	1507.8	1508.7	1508.2	1507.8	1507.3	1506.8
5°	1490.9	1493.7	1496.4	1497.3	1496.4	1495.5	1494.6	1493.7
7.5°	1466.8	1467.6	1468.4	1468.0	1466.4	1464.8	1463.3	1461.7
10°	1442.6	1441.7	1440.8	1439.5	1437.6	1435.8	1434.0	1432.2
12.5°	1415.0	1413.3	1411.7	1409.3	1406.3	1403.3	1400.3	1397.2
15°	1363.2	1357.5	1351.7	1347.3	1344.3	1341.2	1338.2	1335.2
17.5°	1304.8	1297.9	1291.0	1285.0	1279.8	1274.5	1269.3	1264.1
20°	1263.9	1256.3	1248.8	1241.6	1234.9	1228.2	1221.6	1214.9
22.5°	1219.1	1209.3	1199.5	1192.1	1187.2	1182.2	1177.2	1172.2
25°	1144.9	1132.5	1120.0	1111.5	1106.9	1102.3	1097.8	1093.2
27.5°	1074.1	1059.5	1045.0	1034.1	1026.9	1019.7	1012.4	1005.2
30°	1024.0	1008.5	993.0	981.2	973.0	964.8	956.6	948.4
32.5°	973.7	956.1	938.3	925.7	918.0	910.3	902.5	894.8
35°	895.1	876.0	856.8	843.9	837.2	830.5	823.9	817.3
37.5°	818.5	797.5	776.3	762.0	754.4	746.7	739.0	731.4
40°	767.2	745.6	724.2	709.4	701.5	693.6	685.7	677.8
42.5°	715.5	693.2	670.9	655.9	648.3	640.6	633.0	625.4
45°	640.2	618.6	597.0	582.6	575.3	568.0	560.7	553.5
47.5°	566.9	545.5	524.0	510.0	503.4	496.8	490.1	483.5
50°	519.8	498.8	477.9	464.1	457.8	451.4	445.1	438.6
52.5°	475.3	455.0	434.9	421.8	415.9	410.0	404.1	398.2
55°	407.7	389.5	371.2	359.3	353.5	347.7	342.0	336.2
57.5°	346.3	329.5	312.8	302.0	297.2	292.3	287.5	282.6
60°	303.8	288.4	272.9	262.7	257.8	253.0	248.1	243.3
62.5°	267.1	252.3	237.6	228.6	225.8	222.8	219.9	217.0
65°	217.1	206.8	196.4	190.8	189.9	189.0	188.2	187.3
67.5°	175.3	170.6	165.8	162.9	162.0	161.0	160.1	159.1
70°	152.5	149.5	146.4	144.3	143.0	141.8	140.6	139.4
72.5°	132.7	130.1	127.5	125.9	125.2	124.5	123.7	123.0
75°	105.0	103.0	100.9	99.6	99.3	99.0	98.7	98.4
77.5°	79.5	78.4	77.1	76.2	75.8	75.3	74.8	74.4
80°	63.1	62.0	60.7	60.1	60.1	60.1	60.1	60.1
82.5°	47.7	47.0	46.3	45.9	45.9	45.9	45.9	45.9
85°	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
87.5°	11.1	11.0	10.8	10.8	10.9	10.9	11.0	11.1
90°	13.9	14.5	15.2	15.8	16.1	16.3	16.6	16.9
92.5°	15.2	15.6	16.0	16.2	16.3	16.5	16.7	16.9
95°	25.8	26.4	27.1	27.4	27.3	27.1	27.0	26.8
97.5°	33.7	34.2	34.8	35.1	35.3	35.5	35.7	35.8
100°	37.8	38.9	40.0	40.8	41.0	41.3	41.6	41.8
102.5°	39.5	40.9	42.4	43.2	43.7	44.1	44.4	44.9
105°	41.1	42.6	44.1	45.2	45.7	46.4	46.9	47.4
107.5°	50.2	48.7	47.1	46.6	47.2	47.7	48.2	48.8
110°	81.5	67.6	53.8	47.1	47.6	48.2	48.8	49.3





TEST NUMBER: P331851-940

CATALOG NUMBER: S122RDIW-S1005D710U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	174.3	123.8	73.1	48.1	48.5	49.0	49.4	49.8
115°	256.7	192.4	128.2	91.1	81.1	71.2	61.2	51.2
117.5°	395.6	380.0	364.4	340.3	307.5	274.6	241.8	209.0
120°	460.9	462.5	464.2	455.7	436.9	418.2	399.5	380.8
122.5°	489.0	490.0	491.1	489.7	486.1	482.4	478.8	475.2
125°	529.4	530.4	531.4	532.1	532.4	532.9	533.3	533.7
127.5°	566.8	568.2	569.6	570.3	570.4	570.5	570.6	570.7
130°	590.5	592.0	593.5	594.2	594.1	594.0	593.8	593.7
132.5°	613.5	614.8	616.1	616.7	616.5	616.4	616.3	616.2
135°	646.4	647.7	649.2	649.7	649.4	649.2	648.9	648.6
137.5°	676.9	678.2	679.7	680.1	679.6	679.1	678.7	678.1
140°	696.7	697.9	699.2	699.5	698.7	698.0	697.3	696.7
142.5°	714.9	716.0	717.2	717.4	716.8	716.0	715.3	714.6
145°	740.4	741.4	742.3	742.5	741.8	741.1	740.4	739.8
147.5°	762.7	763.4	764.1	764.2	763.6	763.0	762.4	761.8
150°	776.3	777.2	778.0	778.1	777.4	776.7	776.0	775.3
152.5°	788.8	789.7	790.5	790.5	789.5	788.6	787.7	786.8
155°	805.7	806.6	807.4	807.2	806.1	805.0	803.9	802.8
157.5°	819.9	820.8	821.8	821.7	820.6	819.6	818.5	817.3
160°	828.1	829.0	829.8	829.7	828.8	827.8	826.9	825.9
162.5°	835.9	836.8	837.8	837.7	836.4	835.3	834.0	832.9
165°	845.3	846.2	847.2	847.2	846.2	845.3	844.4	843.4
167.5°	853.2	854.2	855.1	855.0	853.7	852.5	851.2	850.0
170°	857.2	858.1	859.1	859.0	857.7	856.5	855.2	854.0
172.5°	860.1	861.1	862.1	861.9	860.7	859.4	858.2	856.9
175°	863.4	864.3	865.3	865.1	863.7	862.4	860.9	859.6
177.5°	863.8	864.5	865.3	865.2	864.2	863.2	862.2	861.2
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7

(END OF REPORT)