

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: P331851-830

Luminaire Tested: **S122RDIW-S1005D710U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331851-830  
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-S1005D710U830-4F0-1E-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: 5957.4 lumens  
Efficiency: N/A  
Efficacy: 99.6 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

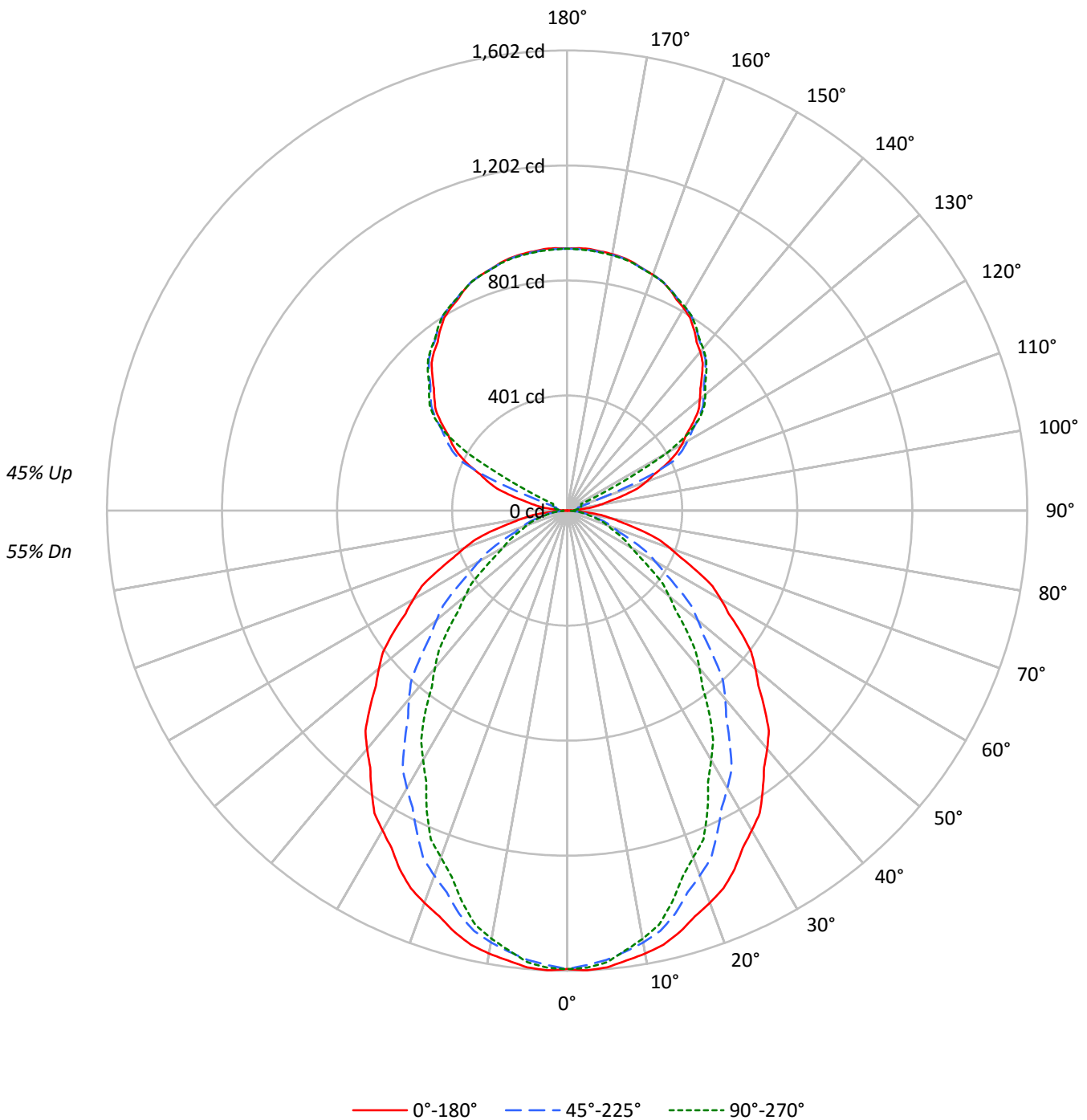
Input Watts (W): 59.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	25770	25770	25770
5°	25869	25449	25590
10°	25671	25032	24819
15°	25377	24289	23590
20°	24967	23230	22063
25°	24549	22026	20587
30°	23968	20789	18690
35°	23402	19446	17026
40°	22835	18054	15099
45°	22165	16493	13358
50°	21481	14913	11645
55°	20777	13216	10001
60°	19963	11428	8302
65°	19037	9605	7561
70°	17934	7912	6954
75°	16581	7211	6488
80°	14635	6453	5904
85°	11504	5076	5076



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.4	2.5
10°-20°	410.2	6.9
20°-30°	576.1	9.7
30°-40°	628.2	10.5
40°-50°	577.6	9.7
50°-60°	453.6	7.6
60°-70°	295.8	5.0
70°-80°	152.5	2.6
80°-90°	41.8	0.7
90°-100°	30.4	0.5
100°-110°	111.6	1.9
110°-120°	298.2	5.0
120°-130°	492.2	8.3
130°-140°	523.5	8.8
140°-150°	486.5	8.2
150°-160°	391.2	6.6
160°-170°	252.1	4.2
170°-180°	86.8	1.5
0°-30°	1135.7	19.1
0°-40°	1763.9	29.6
0°-60°	2795.1	46.9
0°-90°	3285.1	55.1
90°-120°	440.1	7.4
90°-150°	1942.3	32.6
90°-180°	2672.0	44.9
0°-180°	5957.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1596	1596	1596	1596	1596	
5°	1596	1588	1570	1582	1579	151
15°	1518	1500	1453	1426	1411	427
25°	1378	1329	1236	1179	1156	633
35°	1187	1111	987	899	864	743
45°	971	871	722	623	585	749
55°	738	623	470	386	355	659
65°	498	381	251	205	198	494
75°	266	168	116	106	104	281
85°	62	33	27	27	27	73
90°	1	8	13	16	18	5
95°	43	23	26	29	28	52
105°	201	209	40	47	50	214
115°	379	391	407	116	54	373
125°	536	545	558	562	564	478
135°	664	674	680	686	686	512
145°	770	770	781	785	782	481
155°	848	843	850	853	849	391
165°	893	890	892	896	892	252
175°	914	910	911	915	909	87
180°	912	912	912	912	912	



TEST NUMBER: P331851-830

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1601.9	1600.6	1599.3	1598.1	1596.8	1594.7	1591.9	1589.1	1586.3	1583.5	1586.0
5°	1596.1	1594.5	1592.9	1591.3	1589.7	1586.9	1582.6	1578.5	1574.3	1570.2	1573.0
7.5°	1579.7	1577.7	1575.7	1573.7	1571.7	1568.3	1563.4	1558.5	1553.7	1548.8	1549.6
10°	1565.8	1563.6	1561.3	1559.1	1556.8	1552.5	1546.1	1539.6	1533.2	1526.8	1525.9
12.5°	1548.5	1545.7	1542.9	1540.2	1537.5	1531.9	1523.7	1515.5	1507.3	1499.1	1497.3
15°	1518.2	1514.6	1511.1	1507.5	1504.0	1496.8	1485.9	1475.0	1464.1	1453.1	1447.1
17.5°	1480.8	1475.5	1470.1	1464.7	1459.3	1449.6	1435.6	1421.6	1407.6	1393.6	1386.4
20°	1453.1	1446.7	1440.3	1433.9	1427.5	1416.3	1400.1	1384.1	1368.1	1352.0	1344.0
22.5°	1423.1	1415.9	1408.7	1401.6	1394.3	1381.7	1363.6	1345.5	1327.4	1309.3	1298.9
25°	1378.0	1367.7	1357.4	1347.2	1336.9	1321.3	1300.0	1278.8	1257.6	1236.4	1223.3
27.5°	1323.7	1312.6	1301.4	1290.2	1279.0	1261.5	1237.7	1213.7	1189.9	1166.0	1150.7
30°	1285.6	1273.4	1261.2	1249.0	1236.8	1217.9	1192.1	1166.5	1140.9	1115.1	1098.7
32.5°	1248.6	1234.4	1220.1	1205.9	1191.6	1171.4	1145.2	1119.0	1092.8	1066.6	1047.9
35°	1187.3	1171.0	1154.6	1138.2	1121.9	1099.6	1071.3	1043.1	1014.8	986.6	966.4
37.5°	1126.1	1108.1	1090.1	1072.1	1054.2	1030.2	1000.0	970.0	939.8	909.7	887.5
40°	1083.4	1064.1	1044.8	1025.6	1006.4	981.1	950.0	918.9	887.7	856.6	833.8
42.5°	1039.4	1019.2	998.9	978.5	958.3	932.1	899.9	867.7	835.6	803.4	779.9
45°	970.7	949.1	927.7	906.2	884.7	857.1	823.3	789.7	755.9	722.3	699.5
47.5°	903.6	880.9	858.1	835.3	812.5	783.7	748.9	714.1	679.3	644.5	621.9
50°	855.2	832.4	809.5	786.7	763.9	734.9	699.6	664.3	629.0	593.7	571.6
52.5°	807.8	783.9	760.2	736.3	712.5	683.3	648.8	614.3	579.7	545.2	523.8
55°	738.1	713.1	688.1	663.0	638.0	608.1	573.4	538.8	504.2	469.5	450.2
57.5°	666.8	641.1	615.4	589.7	564.0	534.5	501.2	467.9	434.6	401.2	383.6
60°	618.2	592.6	566.8	541.2	515.5	486.2	453.1	420.0	386.9	353.9	337.5
62.5°	570.9	545.2	519.5	493.8	468.2	439.5	408.0	376.5	345.0	313.5	297.8
65°	498.3	472.3	446.4	420.4	394.4	366.9	338.0	309.2	280.2	251.4	240.4
67.5°	428.4	402.7	376.8	351.0	325.2	299.3	273.3	247.3	221.3	195.3	190.3
70°	379.9	354.9	329.8	304.8	279.7	256.2	234.0	211.9	189.7	167.6	164.4
72.5°	333.7	309.6	285.7	261.6	237.6	216.7	199.0	181.2	163.3	145.6	142.9
75°	265.8	243.3	220.8	198.4	175.9	159.2	148.3	137.4	126.5	115.6	113.3
77.5°	199.1	179.4	159.7	140.0	120.2	107.7	102.5	97.2	91.9	86.7	85.4
80°	157.4	141.1	124.7	108.3	92.0	82.2	79.0	75.8	72.6	69.4	68.1
82.5°	119.3	106.5	93.8	81.0	68.2	60.7	58.5	56.4	54.2	52.0	51.3
85°	62.1	55.3	48.6	41.8	35.2	31.3	30.3	29.4	28.4	27.4	27.4
87.5°	18.7	16.9	15.2	13.4	11.7	10.9	11.2	11.4	11.7	11.9	11.8
90°	0.7	2.3	3.9	5.5	7.1	8.5	9.7	10.8	12.1	13.2	13.9
92.5°	13.3	13.2	13.0	12.9	12.7	13.0	13.6	14.1	14.7	15.3	15.6
95°	42.9	38.1	33.2	28.4	23.6	21.6	22.6	23.7	24.7	25.7	26.5
97.5°	85.1	71.4	57.9	44.2	30.5	25.0	27.3	29.7	32.0	34.4	35.1
100°	116.8	96.7	76.6	56.6	36.5	27.6	30.2	32.6	35.2	37.6	38.7
102.5°	151.7	147.4	143.1	138.8	134.6	122.1	101.2	80.4	59.5	38.6	40.2
105°	200.6	205.0	209.4	213.8	218.2	200.4	160.3	120.3	80.3	40.2	41.8
107.5°	256.4	260.0	263.5	267.0	270.6	248.4	200.4	152.4	104.3	56.4	54.7
110°	292.3	295.4	298.5	301.5	304.6	284.9	242.6	200.2	157.9	115.5	100.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	326.1	328.9	331.6	334.2	337.0	333.1	322.6	312.2	301.7	291.2	237.8
115°	379.4	381.9	384.4	386.9	389.4	392.5	396.2	399.8	403.4	407.1	339.2
117.5°	427.1	429.8	432.6	435.4	438.2	440.8	443.4	445.9	448.4	450.9	434.5
120°	461.8	464.1	466.3	468.4	470.7	473.1	475.7	478.3	481.0	483.6	485.4
122.5°	491.4	493.8	496.1	498.4	500.7	503.3	506.1	509.1	511.9	514.8	515.9
125°	536.4	538.4	540.3	542.2	544.0	546.4	549.2	552.0	554.8	557.5	558.6
127.5°	577.2	579.3	581.5	583.5	585.7	587.8	589.8	591.9	594.0	596.1	597.6
130°	603.0	605.4	607.8	610.1	612.5	614.4	616.0	617.6	619.3	620.9	622.5
132.5°	629.5	631.5	633.5	635.5	637.4	639.2	640.8	642.4	644.1	645.7	647.1
135°	663.8	666.1	668.5	670.8	673.2	675.0	676.4	677.7	679.0	680.3	681.7
137.5°	698.5	700.1	701.8	703.4	705.0	706.6	708.1	709.6	711.1	712.7	714.1
140°	721.2	722.4	723.5	724.7	725.9	727.3	728.9	730.5	732.1	733.8	735.1
142.5°	740.2	741.2	742.3	743.4	744.4	745.8	747.7	749.6	751.4	753.3	754.5
145°	770.1	769.9	769.8	769.6	769.4	770.6	773.1	775.6	778.1	780.6	781.7
147.5°	796.0	795.5	794.9	794.4	793.8	794.8	797.2	799.7	802.1	804.6	805.4
150°	812.9	811.9	810.9	809.8	808.8	809.5	811.8	814.2	816.5	818.9	819.7
152.5°	827.2	826.0	824.9	823.7	822.6	823.1	825.4	827.6	829.8	832.1	832.9
155°	847.9	846.6	845.3	844.0	842.6	842.8	844.6	846.3	848.1	849.9	850.7
157.5°	864.1	863.0	861.9	860.7	859.7	859.7	860.9	862.1	863.4	864.6	865.6
160°	873.6	872.7	871.9	871.0	870.1	870.1	871.0	871.9	872.7	873.6	874.5
162.5°	882.0	881.2	880.3	879.4	878.5	878.4	879.2	880.1	880.8	881.6	882.5
165°	893.4	892.5	891.6	890.8	889.9	889.7	890.1	890.5	891.0	891.5	892.5
167.5°	901.8	901.0	900.1	899.2	898.3	898.1	898.5	898.9	899.4	899.8	900.8
170°	906.6	905.7	904.8	904.0	903.1	902.8	903.1	903.4	903.7	904.0	905.0
172.5°	909.7	908.9	908.0	907.1	906.3	906.0	906.3	906.5	906.8	907.1	908.1
175°	913.9	912.9	911.8	910.8	909.7	909.4	909.6	910.0	910.3	910.6	911.6
177.5°	914.5	913.7	912.9	912.1	911.3	910.9	911.0	911.2	911.3	911.3	912.2
180°	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1	1596.1
2.5°	1588.6	1591.1	1593.7	1594.7	1594.2	1593.7	1593.2	1592.7
5°	1575.9	1578.9	1581.7	1582.6	1581.7	1580.7	1579.8	1578.9
7.5°	1550.4	1551.2	1552.1	1551.7	1550.0	1548.3	1546.7	1545.0
10°	1524.8	1523.9	1523.0	1521.5	1519.6	1517.7	1515.7	1513.8
12.5°	1495.6	1493.8	1492.1	1489.7	1486.5	1483.3	1480.1	1476.9
15°	1441.0	1434.8	1428.7	1424.1	1420.9	1417.7	1414.5	1411.3
17.5°	1379.1	1371.9	1364.6	1358.2	1352.7	1347.2	1341.6	1336.1
20°	1336.0	1327.9	1319.9	1312.4	1305.3	1298.3	1291.2	1284.1
22.5°	1288.6	1278.3	1267.9	1260.1	1254.9	1249.6	1244.3	1239.1
25°	1210.1	1197.0	1183.8	1174.9	1170.0	1165.2	1160.4	1155.6
27.5°	1135.3	1119.9	1104.6	1093.1	1085.4	1077.8	1070.2	1062.5
30°	1082.4	1066.0	1049.6	1037.2	1028.5	1019.8	1011.2	1002.5
32.5°	1029.3	1010.6	991.8	978.5	970.3	962.1	953.9	945.8
35°	946.1	926.0	905.7	892.0	885.0	877.9	870.8	863.8
37.5°	865.2	842.9	820.6	805.4	797.4	789.3	781.2	773.1
40°	811.0	788.2	765.4	749.9	741.5	733.1	724.8	716.4
42.5°	756.3	732.7	709.2	693.3	685.2	677.1	669.1	661.0
45°	676.7	653.8	631.0	615.9	608.1	600.4	592.7	585.0
47.5°	599.2	576.6	553.8	539.0	532.1	525.1	518.0	511.0
50°	549.4	527.3	505.1	490.6	483.9	477.1	470.4	463.6
52.5°	502.4	481.0	459.7	445.8	439.6	433.4	427.2	420.9
55°	430.9	411.7	392.4	379.8	373.6	367.5	361.5	355.3
57.5°	366.0	348.3	330.6	319.2	314.1	309.0	303.9	298.7
60°	321.1	304.8	288.4	277.7	272.5	267.4	262.2	257.1
62.5°	282.3	266.6	251.1	241.7	238.7	235.5	232.4	229.4
65°	229.5	218.6	207.6	201.7	200.8	199.8	198.9	197.9
67.5°	185.3	180.3	175.2	172.2	171.3	170.2	169.2	168.1
70°	161.2	158.0	154.8	152.5	151.2	149.9	148.6	147.3
72.5°	140.3	137.5	134.8	133.1	132.3	131.6	130.7	130.0
75°	111.0	108.9	106.6	105.3	105.0	104.6	104.3	104.0
77.5°	84.1	82.8	81.5	80.6	80.1	79.6	79.1	78.6
80°	66.7	65.5	64.2	63.5	63.5	63.5	63.5	63.5
82.5°	50.4	49.7	48.9	48.5	48.5	48.5	48.5	48.5
85°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
87.5°	11.7	11.6	11.4	11.4	11.5	11.5	11.6	11.7
90°	14.7	15.4	16.1	16.7	17.0	17.2	17.5	17.8
92.5°	16.1	16.5	16.9	17.2	17.2	17.4	17.6	17.8
95°	27.2	27.9	28.7	28.9	28.8	28.7	28.6	28.4
97.5°	35.6	36.2	36.8	37.1	37.3	37.5	37.7	37.9
100°	40.0	41.1	42.3	43.1	43.4	43.6	43.9	44.2
102.5°	41.8	43.3	44.8	45.7	46.2	46.6	46.9	47.4
105°	43.5	45.1	46.7	47.8	48.4	49.0	49.6	50.1
107.5°	53.1	51.5	49.8	49.3	49.9	50.4	51.0	51.6
110°	86.1	71.4	56.8	49.8	50.3	51.0	51.6	52.1





TEST NUMBER: P331851-830

CATALOG NUMBER: S122RDIW-S1005D710U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	184.3	130.8	77.3	50.8	51.3	51.7	52.2	52.7
115°	271.4	203.4	135.5	96.3	85.8	75.2	64.7	54.1
117.5°	418.1	401.6	385.2	359.7	325.0	290.3	255.6	220.9
120°	487.2	488.9	490.7	481.6	461.8	442.1	422.3	402.5
122.5°	516.9	517.9	519.1	517.6	513.8	509.9	506.1	502.3
125°	559.6	560.6	561.7	562.4	562.8	563.3	563.7	564.1
127.5°	599.1	600.6	602.1	602.9	602.9	603.0	603.1	603.2
130°	624.2	625.8	627.4	628.1	627.9	627.8	627.6	627.5
132.5°	648.5	649.9	651.2	651.9	651.7	651.6	651.4	651.3
135°	683.2	684.7	686.2	686.7	686.5	686.2	685.9	685.6
137.5°	715.5	716.9	718.4	718.9	718.3	717.8	717.4	716.8
140°	736.4	737.7	739.0	739.3	738.6	737.8	737.1	736.4
142.5°	755.6	756.9	758.1	758.3	757.6	756.9	756.1	755.4
145°	782.6	783.6	784.7	784.9	784.1	783.3	782.6	781.9
147.5°	806.2	806.9	807.7	807.8	807.1	806.5	805.9	805.2
150°	820.6	821.5	822.4	822.5	821.7	821.0	820.2	819.5
152.5°	833.8	834.7	835.6	835.6	834.5	833.6	832.6	831.6
155°	851.6	852.5	853.4	853.2	852.1	850.9	849.7	848.6
157.5°	866.7	867.6	868.6	868.6	867.4	866.3	865.2	863.9
160°	875.3	876.3	877.1	877.0	876.0	875.0	874.0	873.0
162.5°	883.5	884.5	885.5	885.4	884.1	882.9	881.6	880.3
165°	893.5	894.5	895.5	895.5	894.5	893.5	892.5	891.5
167.5°	901.8	902.9	903.8	903.7	902.4	901.1	899.8	898.4
170°	906.1	907.0	908.0	908.0	906.6	905.3	904.0	902.7
172.5°	909.2	910.2	911.3	911.1	909.7	908.4	907.1	905.8
175°	912.7	913.6	914.6	914.5	912.9	911.5	910.0	908.6
177.5°	913.0	913.8	914.6	914.5	913.5	912.4	911.3	910.3
180°	911.9	911.9	911.9	911.9	911.9	911.9	911.9	911.9

(END OF REPORT)