

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: P331855-830

Luminaire Tested: **S122RDIW-S1005D970U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331855-830
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-S1005D970U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6933.5 lumens
Efficiency: N/A
Efficacy: 102.9 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

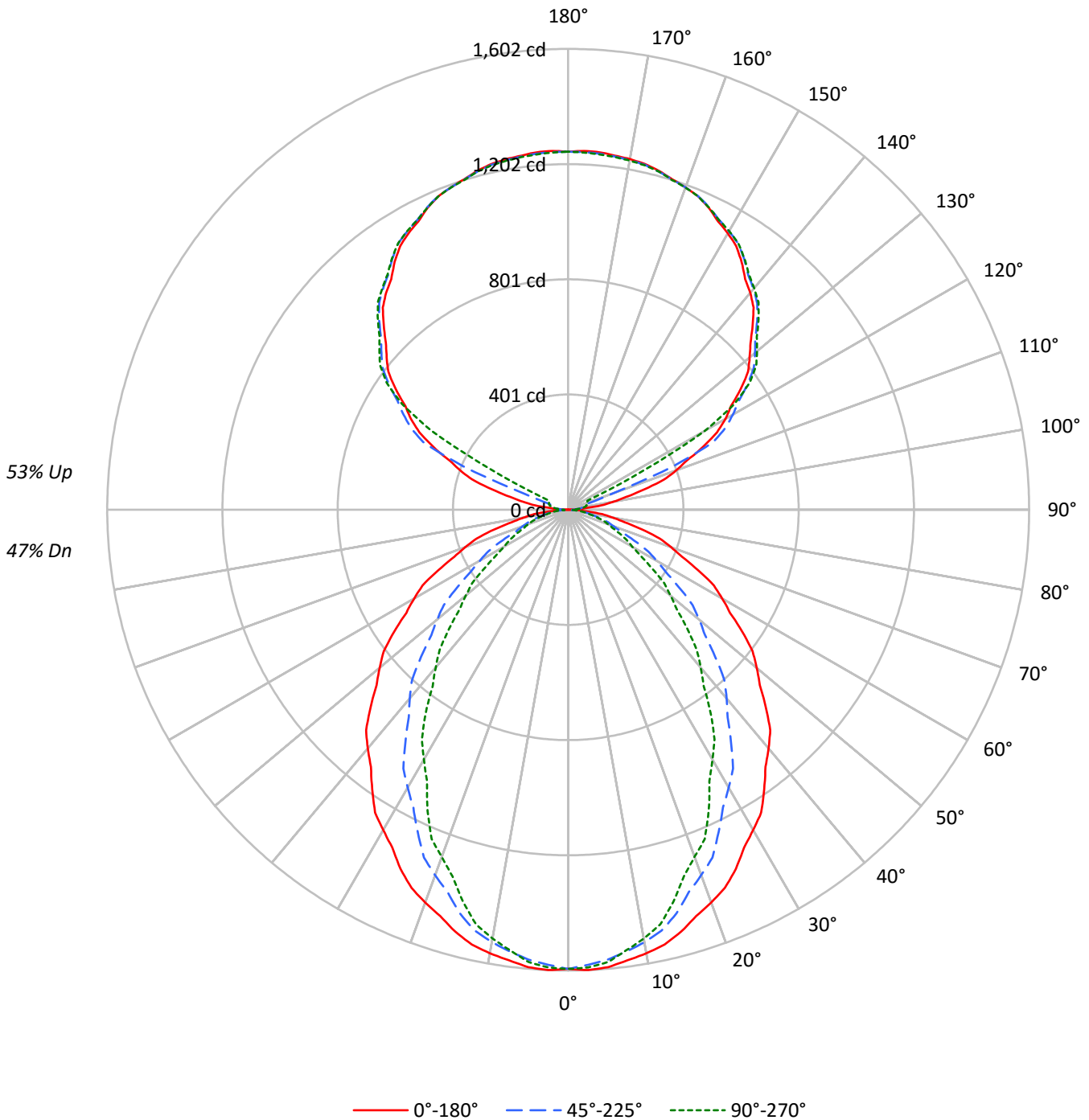
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	98	94	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	38	36	34	30
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30	26
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26	23
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23	21
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

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	2.2
10°-20°	410.2	5.9
20°-30°	576.1	8.3
30°-40°	628.2	9.1
40°-50°	577.6	8.3
50°-60°	453.6	6.5
60°-70°	295.8	4.3
70°-80°	152.5	2.2
80°-90°	42.6	0.6
90°-100°	41.5	0.6
100°-110°	152.3	2.2
110°-120°	407.0	5.9
120°-130°	671.8	9.7
130°-140°	714.5	10.3
140°-150°	664.1	9.6
150°-160°	533.9	7.7
160°-170°	344.1	5.0
170°-180°	118.4	1.7
0°-30°	1135.7	16.4
0°-40°	1763.9	25.4
0°-60°	2795.1	40.3
0°-90°	3285.9	47.4
90°-120°	600.8	8.7
90°-150°	2651.1	38.2
90°-180°	3648.0	52.6
0°-180°	6933.5	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	11	18	22	24	5
95°	58	31	35	39	39	72
105°	274	286	55	64	68	293
115°	518	534	556	158	74	510
125°	732	744	761	767	770	653
135°	906	920	929	937	936	700
145°	1051	1051	1066	1071	1067	657
155°	1157	1150	1160	1165	1158	533
165°	1220	1215	1217	1222	1217	344
175°	1247	1242	1243	1248	1240	119
180°	1245	1245	1245	1245	1245	



TEST NUMBER: P331855-830

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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	17.1	15.5	13.9	12.3	11.6	11.9	12.3	12.5	12.8	12.8
90°	0.9	3.1	5.3	7.5	9.7	11.6	13.2	14.8	16.4	18.0	19.0
92.5°	18.2	18.0	17.8	17.6	17.4	17.7	18.5	19.3	20.1	20.9	21.4
95°	58.5	51.9	45.3	38.7	32.1	29.5	30.9	32.3	33.7	35.2	36.1
97.5°	116.2	97.6	79.0	60.3	41.8	34.0	37.3	40.5	43.7	47.0	47.8
100°	159.4	132.0	104.5	77.2	49.8	37.7	41.1	44.5	48.0	51.4	53.0
102.5°	207.0	201.1	195.4	189.5	183.7	166.6	138.2	109.7	81.2	52.8	54.9
105°	273.8	279.8	285.8	291.8	297.8	273.5	218.9	164.2	109.6	55.0	57.1
107.5°	350.0	354.9	359.7	364.5	369.4	339.0	273.5	207.9	142.4	76.9	74.6
110°	399.0	403.2	407.4	411.6	415.8	389.0	331.1	273.3	215.5	157.6	137.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	445.1	448.8	452.5	456.3	460.0	454.7	440.5	426.1	411.8	397.6	324.5
115°	517.8	521.2	524.7	528.1	531.5	535.6	540.6	545.6	550.7	555.7	463.0
117.5°	582.9	586.7	590.5	594.3	598.1	601.7	605.2	608.6	612.1	615.5	593.0
120°	630.5	633.5	636.4	639.4	642.4	645.7	649.3	653.0	656.6	660.2	662.6
122.5°	670.8	673.9	677.1	680.2	683.4	687.0	690.9	694.8	698.7	702.7	704.1
125°	732.2	734.8	737.4	740.0	742.6	745.8	749.6	753.5	757.2	761.0	762.4
127.5°	787.9	790.8	793.6	796.5	799.4	802.3	805.1	807.9	810.8	813.6	815.7
130°	823.2	826.4	829.6	832.7	835.9	838.7	840.8	843.1	845.3	847.5	849.7
132.5°	859.2	862.0	864.7	867.3	870.1	872.5	874.8	876.9	879.1	881.4	883.3
135°	906.1	909.3	912.5	915.7	918.9	921.3	923.1	924.9	926.7	928.6	930.6
137.5°	953.4	955.6	957.9	960.2	962.3	964.5	966.6	968.6	970.6	972.7	974.7
140°	984.4	986.0	987.6	989.2	990.8	992.7	994.9	997.1	999.3	1001.5	1003.3
142.5°	1010.3	1011.7	1013.2	1014.6	1016.1	1018.0	1020.6	1023.1	1025.7	1028.1	1029.8
145°	1051.0	1050.8	1050.7	1050.5	1050.3	1051.9	1055.3	1058.7	1062.1	1065.5	1066.9
147.5°	1086.6	1085.7	1085.0	1084.2	1083.5	1084.8	1088.2	1091.5	1094.9	1098.3	1099.3
150°	1109.6	1108.1	1106.7	1105.4	1104.0	1104.8	1108.1	1111.3	1114.5	1117.7	1118.9
152.5°	1129.1	1127.5	1125.9	1124.4	1122.8	1123.5	1126.5	1129.6	1132.7	1135.7	1136.9
155°	1157.3	1155.5	1153.7	1151.9	1150.1	1150.4	1152.8	1155.2	1157.6	1160.0	1161.2
157.5°	1179.5	1178.0	1176.4	1174.9	1173.4	1173.5	1175.2	1176.9	1178.5	1180.2	1181.6
160°	1192.4	1191.3	1190.1	1188.8	1187.6	1187.6	1188.8	1190.1	1191.3	1192.4	1193.6
162.5°	1204.0	1202.8	1201.6	1200.3	1199.2	1199.1	1200.1	1201.2	1202.2	1203.2	1204.6
165°	1219.5	1218.2	1217.0	1215.9	1214.7	1214.4	1214.9	1215.5	1216.2	1216.7	1218.1
167.5°	1231.0	1229.7	1228.6	1227.4	1226.2	1225.9	1226.4	1227.0	1227.6	1228.1	1229.5
170°	1237.5	1236.2	1235.1	1233.9	1232.7	1232.3	1232.7	1233.0	1233.5	1233.9	1235.3
172.5°	1241.8	1240.6	1239.3	1238.2	1237.0	1236.6	1237.0	1237.4	1237.7	1238.2	1239.6
175°	1247.4	1245.9	1244.5	1243.2	1241.8	1241.2	1241.7	1242.1	1242.5	1242.8	1244.3
177.5°	1248.3	1247.2	1246.0	1244.9	1243.8	1243.3	1243.5	1243.6	1243.8	1244.0	1245.1
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6



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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°	12.7	12.6	12.6	12.6	12.7	12.8	12.9	12.9
90°	20.0	21.0	22.1	22.7	23.1	23.5	23.9	24.3
92.5°	22.0	22.4	23.0	23.4	23.6	23.8	24.0	24.3
95°	37.1	38.2	39.1	39.5	39.3	39.1	38.9	38.7
97.5°	48.6	49.4	50.2	50.7	51.0	51.2	51.5	51.7
100°	54.6	56.2	57.8	58.7	59.1	59.6	59.9	60.3
102.5°	56.9	59.0	61.1	62.4	63.0	63.5	64.1	64.7
105°	59.4	61.5	63.7	65.2	66.1	66.8	67.7	68.4
107.5°	72.4	70.2	68.0	67.2	68.1	68.8	69.7	70.4
110°	117.5	97.6	77.6	68.0	68.7	69.6	70.3	71.2



TEST NUMBER: P331855-830

CATALOG NUMBER: S122RDIW-S1005D970U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	251.5	178.5	105.5	69.3	69.9	70.6	71.3	71.9
115°	370.3	277.7	185.0	131.5	117.1	102.6	88.2	73.9
117.5°	570.6	548.3	525.8	491.0	443.6	396.2	348.9	301.5
120°	665.0	667.3	669.8	657.4	630.5	603.4	576.4	549.4
122.5°	705.6	707.0	708.4	706.5	701.3	696.1	690.8	685.6
125°	763.8	765.3	766.7	767.6	768.3	768.8	769.4	770.1
127.5°	817.7	819.7	821.8	822.8	823.0	823.1	823.2	823.3
130°	851.9	854.1	856.3	857.3	857.1	856.9	856.7	856.5
132.5°	885.1	887.0	888.9	889.8	889.5	889.3	889.1	888.9
135°	932.6	934.5	936.5	937.4	937.0	936.5	936.1	935.8
137.5°	976.6	978.5	980.5	981.2	980.5	979.8	979.1	978.5
140°	1005.1	1006.9	1008.7	1009.1	1008.1	1007.1	1006.1	1005.1
142.5°	1031.4	1033.1	1034.7	1035.0	1034.1	1033.0	1032.1	1031.0
145°	1068.3	1069.7	1071.0	1071.3	1070.3	1069.2	1068.3	1067.2
147.5°	1100.3	1101.4	1102.4	1102.5	1101.6	1100.8	1099.9	1099.1
150°	1120.1	1121.2	1122.5	1122.6	1121.6	1120.6	1119.6	1118.6
152.5°	1138.1	1139.3	1140.5	1140.5	1139.2	1137.8	1136.5	1135.2
155°	1162.4	1163.6	1164.8	1164.6	1163.0	1161.4	1159.8	1158.2
157.5°	1182.9	1184.3	1185.6	1185.5	1183.9	1182.4	1180.8	1179.3
160°	1194.9	1196.0	1197.2	1197.1	1195.7	1194.3	1193.0	1191.6
162.5°	1206.0	1207.3	1208.7	1208.5	1206.7	1205.0	1203.3	1201.6
165°	1219.6	1221.0	1222.4	1222.4	1221.0	1219.6	1218.1	1216.7
167.5°	1230.9	1232.3	1233.7	1233.5	1231.7	1229.9	1228.1	1226.3
170°	1236.7	1238.0	1239.4	1239.3	1237.5	1235.7	1233.9	1232.1
172.5°	1241.0	1242.4	1243.8	1243.6	1241.8	1240.0	1238.2	1236.4
175°	1245.7	1247.1	1248.5	1248.2	1246.1	1244.2	1242.2	1240.2
177.5°	1246.2	1247.3	1248.4	1248.3	1246.8	1245.4	1244.0	1242.6
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6

(END OF REPORT)