

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: P332452-830

Luminaire Tested: **S123RDIW-S1000D460U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332452-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1000D460U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5313.0 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

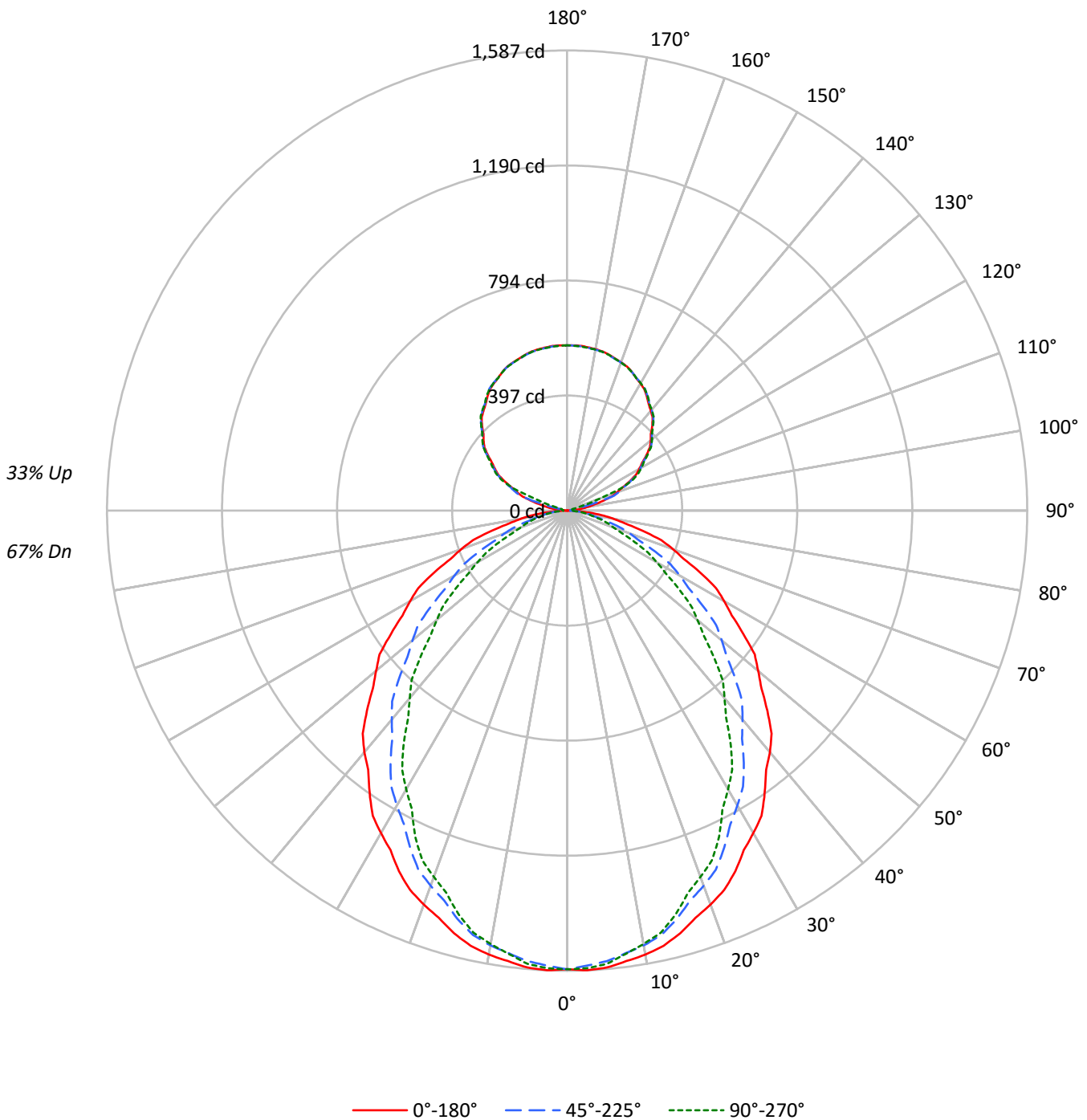
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72
1	102	98	94	91	96	92	89	86	82	80	77	73	71	69	64	63	62
2	93	86	80	75	88	81	76	71	73	68	65	65	61	59	57	55	53
3	85	76	69	63	80	72	65	60	64	59	55	57	53	50	51	48	45
4	78	68	60	54	74	64	57	51	58	52	47	52	47	43	46	42	39
5	72	61	52	46	68	58	50	45	52	46	41	46	42	38	42	38	35
6	67	55	46	40	63	52	44	39	47	41	36	42	37	33	38	34	31
7	62	49	41	36	58	47	40	35	43	37	32	39	34	30	35	31	27
8	58	45	37	32	54	43	36	31	39	33	29	35	30	27	32	28	25
9	54	41	34	29	51	40	33	28	36	30	26	33	28	24	30	25	22
10	50	38	31	26	48	36	30	25	33	28	24	30	25	22	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17026	17026	17026
5°	17091	16855	16953
10°	16994	16644	16587
15°	16811	16254	16082
20°	16561	15767	15400
25°	16302	15221	14733
30°	15960	14589	13793
35°	15609	13958	12929
40°	15286	13212	11861
45°	14862	12478	10898
50°	14393	11643	9818
55°	13915	10689	8811
60°	13476	9666	7705
65°	12905	8560	6599
70°	12192	7188	5331
75°	11154	5656	5016
80°	9937	5009	4612
85°	8398	4434	4125



TEST NUMBER: P332452-830

CATALOG NUMBER: S123RDIW-S1000D460U830-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.5	2.8
10°-20°	413.3	7.8
20°-30°	595.1	11.2
30°-40°	670.3	12.6
40°-50°	641.3	12.1
50°-60°	525.1	9.9
60°-70°	354.3	6.7
70°-80°	178.2	3.4
80°-90°	48.8	0.9
90°-100°	20.7	0.4
100°-110°	98.8	1.9
110°-120°	237.2	4.5
120°-130°	302.1	5.7
130°-140°	322.8	6.1
140°-150°	301.8	5.7
150°-160°	243.5	4.6
160°-170°	157.1	3.0
170°-180°	54.2	1.0
0°-30°	1156.9	21.8
0°-40°	1827.2	34.4
0°-60°	2993.6	56.3
0°-90°	3574.9	67.3
90°-120°	356.7	6.7
90°-150°	1283.4	24.2
90°-180°	1738.0	32.7
0°-180°	5313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1582	1575	1560	1571	1569	150
15°	1509	1493	1459	1452	1443	425
25°	1373	1339	1282	1255	1240	631
35°	1188	1140	1062	1009	984	743
45°	976	916	820	749	716	753
55°	742	676	570	498	470	665
65°	507	435	336	276	259	501
75°	268	206	136	124	121	286
85°	68	41	36	34	33	76
90°	0	5	10	12	13	5
95°	26	10	13	16	16	32
105°	126	128	93	22	19	134
115°	237	239	243	247	249	234
125°	334	337	339	340	340	298
135°	415	418	420	421	420	320
145°	479	482	483	484	484	300
155°	528	527	528	529	527	243
165°	557	556	555	558	556	157
175°	570	568	568	571	568	54
180°	570	570	570	570	570	



TEST NUMBER: P332452-830

CATALOG NUMBER: S123RDIW-S1000D460U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1586.9	1585.9	1585.1	1584.1	1583.2	1581.4	1578.7	1575.9	1573.2	1570.5	1572.9
5°	1581.8	1580.3	1578.9	1577.4	1576.0	1573.6	1570.2	1566.8	1563.4	1559.9	1562.5
7.5°	1567.1	1565.6	1564.1	1562.5	1560.9	1557.9	1553.5	1549.1	1544.6	1540.2	1541.6
10°	1554.8	1552.8	1550.8	1548.8	1546.8	1543.2	1538.1	1533.0	1527.9	1522.8	1523.1
12.5°	1537.4	1535.1	1533.0	1530.7	1528.4	1524.2	1518.0	1511.6	1505.4	1499.1	1498.9
15°	1508.6	1505.5	1502.3	1499.2	1496.1	1490.5	1482.5	1474.5	1466.6	1458.6	1457.2
17.5°	1472.4	1468.8	1465.2	1461.5	1457.8	1451.0	1440.8	1430.7	1420.5	1410.3	1407.3
20°	1445.8	1441.2	1436.6	1432.1	1427.5	1419.8	1409.0	1398.2	1387.3	1376.5	1372.8
22.5°	1416.0	1410.8	1405.5	1400.2	1395.1	1386.7	1375.1	1363.6	1352.1	1340.6	1336.0
25°	1372.6	1365.6	1358.4	1351.2	1344.2	1334.0	1320.9	1307.8	1294.7	1281.6	1275.5
27.5°	1320.0	1312.2	1304.3	1296.5	1288.5	1277.3	1262.7	1248.1	1233.5	1219.0	1210.6
30°	1284.1	1275.5	1267.1	1258.5	1249.9	1237.7	1221.7	1205.7	1189.8	1173.8	1164.1
32.5°	1248.2	1238.5	1228.8	1219.1	1209.5	1196.2	1179.3	1162.4	1145.5	1128.6	1118.0
35°	1187.9	1177.6	1167.3	1157.2	1146.9	1132.8	1115.2	1097.5	1079.9	1062.2	1049.9
37.5°	1126.8	1115.4	1104.0	1092.6	1081.2	1066.1	1047.3	1028.3	1009.5	990.6	976.7
40°	1087.9	1075.3	1062.7	1050.2	1037.6	1021.2	1001.1	980.8	960.5	940.3	925.5
42.5°	1043.7	1031.1	1018.6	1006.1	993.5	976.9	955.9	935.0	914.1	893.2	876.9
45°	976.3	963.4	950.6	937.7	924.9	907.6	885.6	863.7	841.7	819.7	803.5
47.5°	908.8	894.7	880.6	866.5	852.4	834.4	812.5	790.5	768.5	746.6	729.0
50°	859.5	846.1	832.7	819.4	805.9	787.7	764.6	741.5	718.4	695.3	677.6
52.5°	815.4	800.9	786.3	771.8	757.2	738.5	715.7	692.8	670.0	647.1	628.7
55°	741.5	727.5	713.5	699.6	685.6	666.5	642.2	618.0	593.8	569.6	553.1
57.5°	673.3	658.0	642.8	627.5	612.4	592.6	568.2	543.8	519.5	495.2	479.6
60°	626.0	610.4	594.7	579.0	563.3	543.7	520.0	496.3	472.7	449.0	433.6
62.5°	578.8	563.2	547.4	531.8	516.1	496.4	472.8	449.1	425.5	401.8	387.3
65°	506.7	491.1	475.3	459.7	444.0	425.1	402.8	380.6	358.4	336.1	322.2
67.5°	434.6	418.8	402.9	387.1	371.3	352.6	331.3	310.0	288.7	267.3	256.9
70°	387.4	372.0	356.7	341.2	325.8	308.2	288.2	268.2	248.3	228.4	218.4
72.5°	340.2	325.1	309.9	294.7	279.6	262.9	244.8	226.7	208.5	190.4	182.2
75°	268.2	254.4	240.7	227.1	213.4	198.7	183.0	167.3	151.7	136.0	133.1
77.5°	202.5	190.0	177.7	165.3	153.0	141.7	131.6	121.5	111.4	101.3	99.8
80°	160.3	148.6	137.0	125.3	113.6	104.8	98.8	92.7	86.8	80.8	79.9
82.5°	120.4	110.3	100.2	90.0	79.9	73.5	70.7	68.0	65.1	62.3	61.5
85°	68.0	61.7	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.7	22.4	20.1	17.7	15.5	14.4	14.6	14.9	15.2	15.4	15.2
90°	0.4	1.3	2.3	3.2	4.1	5.3	6.5	7.7	9.0	10.2	10.6
92.5°	7.9	7.6	7.4	7.1	6.8	7.2	8.1	9.0	9.9	10.8	11.4
95°	25.8	22.0	18.1	14.2	10.4	9.0	10.0	11.0	12.1	13.1	13.8
97.5°	51.9	50.1	48.4	46.8	45.0	40.7	33.9	27.1	20.5	13.7	14.4
100°	71.5	73.4	75.3	77.2	79.1	72.7	58.1	43.4	28.7	13.9	14.7
102.5°	93.9	95.3	96.6	98.0	99.3	92.0	76.0	59.9	43.9	27.9	25.5
105°	126.2	127.2	128.3	129.3	130.4	126.6	118.1	109.7	101.2	92.7	76.1
107.5°	160.2	161.1	161.9	162.7	163.5	164.7	166.0	167.3	168.6	169.9	157.8
110°	182.9	183.7	184.5	185.2	186.0	186.8	187.8	188.9	189.9	191.0	187.8



TEST NUMBER: P332452-830

CATALOG NUMBER: S123RDIW-S1000D460U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.6	205.3	205.9	206.6	207.4	208.2	209.2	210.3	211.3	212.4	212.4
115°	236.7	237.2	237.8	238.4	238.9	239.7	240.5	241.4	242.2	243.1	244.0
117.5°	267.8	268.5	269.2	269.8	270.6	271.2	271.5	272.0	272.5	272.9	273.6
120°	287.1	287.9	288.8	289.6	290.5	291.1	291.3	291.6	291.9	292.2	292.9
122.5°	306.8	307.5	308.1	308.9	309.5	310.1	310.5	310.8	311.1	311.5	312.0
125°	333.7	334.4	335.2	335.9	336.7	337.2	337.6	338.0	338.4	338.7	338.9
127.5°	359.8	360.5	361.3	362.0	362.8	363.4	363.8	364.3	364.8	365.2	365.5
130°	376.1	376.8	377.6	378.3	379.1	379.7	380.0	380.4	380.8	381.1	381.4
132.5°	391.6	392.4	393.1	393.9	394.6	395.1	395.5	395.8	396.1	396.3	396.7
135°	415.4	415.9	416.5	417.1	417.6	418.1	418.5	418.9	419.2	419.6	419.9
137.5°	435.7	436.5	437.2	437.9	438.6	439.0	439.3	439.5	439.7	439.9	440.4
140°	449.3	449.9	450.4	451.0	451.6	451.9	452.2	452.5	452.8	453.1	453.5
142.5°	461.8	462.4	463.0	463.5	464.1	464.5	464.8	465.1	465.3	465.6	465.9
145°	479.4	480.0	480.7	481.4	482.0	482.4	482.6	482.8	483.0	483.1	483.3
147.5°	495.9	496.3	496.7	497.2	497.6	497.9	498.1	498.3	498.5	498.7	498.9
150°	506.1	506.3	506.6	506.9	507.2	507.4	507.6	507.7	507.9	508.1	508.3
152.5°	515.2	515.3	515.5	515.6	515.8	515.9	515.9	516.0	516.1	516.3	516.6
155°	528.0	527.8	527.6	527.5	527.4	527.3	527.4	527.4	527.5	527.6	528.1
157.5°	538.1	538.0	538.0	538.0	538.0	537.9	537.8	537.7	537.6	537.5	538.1
160°	544.1	544.0	543.9	543.8	543.8	543.7	543.6	543.5	543.4	543.3	543.8
162.5°	549.9	549.7	549.4	549.2	548.9	548.7	548.7	548.6	548.5	548.4	549.0
165°	556.9	556.6	556.3	556.0	555.7	555.5	555.4	555.3	555.3	555.2	555.9
167.5°	562.3	561.9	561.6	561.2	560.8	560.6	560.6	560.6	560.6	560.6	561.4
170°	565.3	565.0	564.6	564.2	563.8	563.6	563.6	563.6	563.6	563.6	564.4
172.5°	567.3	566.9	566.5	566.0	565.5	565.3	565.4	565.5	565.6	565.6	566.4
175°	570.0	569.5	569.0	568.5	568.1	567.9	568.0	568.1	568.2	568.3	568.9
177.5°	570.6	570.2	569.9	569.5	569.1	569.0	569.1	569.1	569.2	569.3	569.9
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0



TEST NUMBER: P332452-830

CATALOG NUMBER: S123RDIW-S1000D460U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8	1581.8
2.5°	1575.5	1578.0	1580.5	1581.5	1581.0	1580.6	1580.2	1579.7
5°	1565.1	1567.6	1570.2	1571.2	1570.7	1570.1	1569.5	1569.0
7.5°	1543.0	1544.5	1545.9	1546.1	1545.1	1544.2	1543.2	1542.2
10°	1523.3	1523.6	1523.9	1523.3	1521.8	1520.4	1519.0	1517.6
12.5°	1498.7	1498.6	1498.5	1497.5	1495.9	1494.2	1492.6	1490.9
15°	1455.8	1454.3	1452.9	1451.1	1449.2	1447.2	1445.2	1443.2
17.5°	1404.3	1401.3	1398.3	1395.2	1392.3	1389.3	1386.4	1383.4
20°	1369.0	1365.4	1361.7	1358.1	1354.7	1351.2	1347.8	1344.4
22.5°	1331.3	1326.7	1322.1	1318.1	1315.0	1311.8	1308.6	1305.4
25°	1269.6	1263.6	1257.6	1253.0	1249.9	1246.8	1243.7	1240.5
27.5°	1202.3	1194.0	1185.6	1179.1	1174.3	1169.5	1164.7	1160.0
30°	1154.4	1144.7	1135.0	1127.9	1123.3	1118.8	1114.2	1109.7
32.5°	1107.4	1096.8	1086.2	1078.6	1073.7	1068.9	1064.1	1059.3
35°	1037.6	1025.4	1013.1	1004.5	999.4	994.2	989.1	983.9
37.5°	962.8	948.9	935.0	924.8	918.5	912.2	905.9	899.6
40°	910.7	895.9	881.0	870.3	863.7	857.2	850.6	844.1
42.5°	860.7	844.5	828.3	817.3	811.4	805.6	799.7	793.8
45°	787.2	771.0	754.7	743.2	736.3	729.5	722.6	715.9
47.5°	711.2	693.6	675.9	664.0	657.9	651.9	645.7	639.6
50°	660.0	642.2	624.6	612.5	606.0	599.4	592.9	586.3
52.5°	610.4	592.0	573.6	561.5	555.6	549.8	543.9	538.0
55°	536.5	520.0	503.4	492.3	486.6	480.9	475.2	469.5
57.5°	463.9	448.3	432.7	422.4	417.6	412.7	407.9	403.0
60°	418.2	402.8	387.4	377.3	372.5	367.6	362.8	357.9
62.5°	372.8	358.4	343.8	334.0	329.0	324.0	318.9	313.8
65°	308.2	294.2	280.2	271.6	268.5	265.4	262.3	259.1
67.5°	246.5	236.0	225.6	218.7	215.4	212.0	208.6	205.3
70°	208.4	198.4	188.4	181.9	178.7	175.6	172.5	169.4
72.5°	174.1	165.9	157.8	153.1	151.7	150.4	149.1	147.8
75°	130.3	127.4	124.6	122.9	122.3	121.7	121.1	120.6
77.5°	98.3	96.7	95.2	94.2	93.6	93.0	92.5	91.9
80°	79.1	78.2	77.4	76.7	76.2	75.6	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.2	58.1	58.0
85°	34.8	34.2	33.6	33.4	33.4	33.4	33.4	33.4
87.5°	15.1	14.9	14.8	14.6	14.4	14.2	14.0	13.9
90°	10.9	11.3	11.7	12.0	12.2	12.3	12.5	12.7
92.5°	12.1	12.6	13.3	13.6	13.8	13.9	13.9	14.0
95°	14.4	15.1	15.7	16.1	16.1	16.1	16.1	16.1
97.5°	15.2	15.9	16.7	17.1	17.2	17.2	17.3	17.4
100°	15.5	16.2	17.0	17.4	17.5	17.6	17.7	17.8
102.5°	23.2	20.8	18.6	17.4	17.6	17.8	17.9	18.1
105°	59.4	42.8	26.1	17.9	18.1	18.3	18.5	18.7
107.5°	145.5	133.4	121.1	108.8	96.1	83.6	71.1	58.5
110°	184.7	181.6	178.5	170.3	156.8	143.4	129.9	116.5



TEST NUMBER: P332452-830

CATALOG NUMBER: S123RDIW-S1000D460U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	212.4	212.5	211.1	208.3	205.5	202.6	199.8
115°	245.0	245.9	246.9	247.5	247.9	248.3	248.6	249.0
117.5°	274.4	275.1	275.9	276.3	276.4	276.4	276.5	276.6
120°	293.7	294.5	295.2	295.6	295.6	295.6	295.6	295.6
122.5°	312.5	313.1	313.6	313.9	314.0	314.1	314.1	314.2
125°	339.1	339.3	339.5	339.7	339.9	340.1	340.3	340.4
127.5°	365.8	366.1	366.4	366.5	366.3	366.1	365.9	365.7
130°	381.8	382.2	382.6	382.7	382.5	382.3	382.1	381.9
132.5°	397.1	397.5	397.8	397.9	397.7	397.4	397.1	396.9
135°	420.2	420.5	420.8	420.8	420.5	420.2	419.9	419.6
137.5°	440.8	441.2	441.7	441.9	441.7	441.5	441.3	441.1
140°	453.8	454.2	454.6	454.7	454.5	454.3	454.1	453.9
142.5°	466.3	466.6	466.8	466.8	466.6	466.4	466.1	465.8
145°	483.5	483.7	483.9	484.0	484.0	484.0	484.0	484.0
147.5°	499.1	499.3	499.5	499.3	498.9	498.4	498.0	497.6
150°	508.5	508.7	508.9	508.9	508.6	508.3	508.0	507.7
152.5°	517.0	517.3	517.6	517.6	517.2	516.7	516.3	515.9
155°	528.6	529.0	529.5	529.4	528.9	528.3	527.7	527.3
157.5°	538.7	539.2	539.8	539.7	538.9	538.3	537.5	536.8
160°	544.4	545.0	545.5	545.5	544.9	544.2	543.6	542.9
162.5°	549.7	550.4	550.9	551.0	550.4	549.8	549.2	548.7
165°	556.7	557.4	558.2	558.2	557.5	556.9	556.3	555.6
167.5°	562.1	562.8	563.5	563.5	562.8	562.1	561.4	560.6
170°	565.1	565.9	566.7	566.7	565.9	565.1	564.4	563.6
172.5°	567.1	567.9	568.6	568.6	567.8	566.9	566.2	565.3
175°	569.6	570.2	570.9	570.9	570.1	569.4	568.6	567.9
177.5°	570.5	571.1	571.7	571.7	570.9	570.1	569.4	568.6
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0

(END OF REPORT)