

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: P332452-940

Luminaire Tested: **S123RDIW-S1000D460U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332452-940
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-S1000D460U940-4F0-1E-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: 5026.5 lumens
Efficiency: N/A
Efficacy: 108.8 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

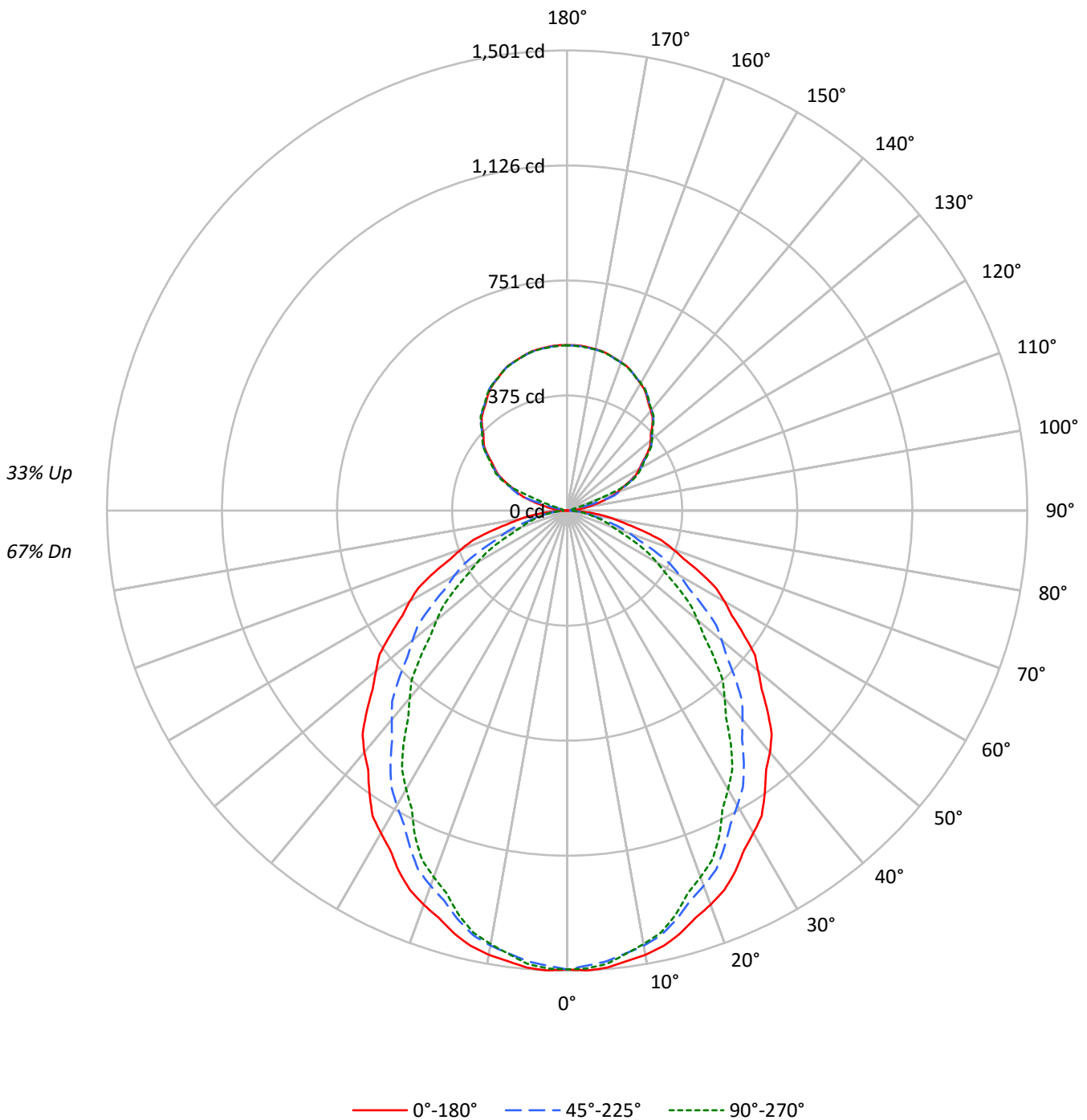
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	98	94	91	96	92	89	86	82	80	77	73	71	69	64	63	62	58
2	93	86	80	75	88	81	76	71	73	68	65	65	61	59	57	55	53	49
3	85	76	69	63	80	72	65	60	64	59	55	57	53	50	51	48	45	42
4	78	68	60	54	74	64	57	51	58	52	47	52	47	43	46	42	39	36
5	72	61	52	46	68	58	50	45	52	46	41	46	42	38	42	38	35	32
6	67	55	46	40	63	52	44	39	47	41	36	42	37	33	38	34	31	28
7	62	49	41	36	58	47	40	35	43	37	32	39	34	30	35	31	27	25
8	58	45	37	32	54	43	36	31	39	33	29	35	30	27	32	28	25	23
9	54	41	34	29	51	40	33	28	36	30	26	33	28	24	30	25	22	20
10	50	38	31	26	48	36	30	25	33	28	24	30	25	22	27	23	20	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16108	16108	16108
5°	16170	15946	16038
10°	16078	15746	15692
15°	15905	15377	15216
20°	15668	14917	14569
25°	15423	14400	13938
30°	15100	13803	13048
35°	14767	13205	12232
40°	14462	12500	11221
45°	14059	11805	10310
50°	13618	11015	9287
55°	13165	10113	8336
60°	12751	9145	7289
65°	12210	8099	6243
70°	11534	6801	5042
75°	10551	5352	4741
80°	9403	4736	4364
85°	7941	4199	3903



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	2.8
10°-20°	391.0	7.8
20°-30°	563.0	11.2
30°-40°	634.1	12.6
40°-50°	606.7	12.1
50°-60°	496.8	9.9
60°-70°	335.2	6.7
70°-80°	168.6	3.4
80°-90°	46.1	0.9
90°-100°	19.6	0.4
100°-110°	93.4	1.9
110°-120°	224.4	4.5
120°-130°	285.8	5.7
130°-140°	305.4	6.1
140°-150°	285.5	5.7
150°-160°	230.3	4.6
160°-170°	148.7	3.0
170°-180°	51.2	1.0
0°-30°	1094.5	21.8
0°-40°	1728.6	34.4
0°-60°	2832.1	56.3
0°-90°	3382.1	67.3
90°-120°	337.5	6.7
90°-150°	1214.2	24.2
90°-180°	1644.0	32.7
0°-180°	5026.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1496	1490	1476	1486	1484	142
15°	1427	1413	1380	1374	1365	402
25°	1299	1267	1212	1188	1174	597
35°	1124	1078	1005	954	931	703
45°	924	867	776	709	677	712
55°	702	640	539	471	444	629
65°	479	411	318	261	245	474
75°	254	195	129	117	114	270
85°	64	39	34	32	32	72
90°	0	4	10	11	12	4
95°	24	9	12	15	15	30
105°	119	122	88	21	18	127
115°	224	226	230	234	236	221
125°	316	319	320	321	322	282
135°	393	395	397	398	397	302
145°	454	456	457	458	458	284
155°	500	499	499	501	499	230
165°	527	526	525	528	526	149
175°	539	537	538	540	537	51
180°	539	539	539	539	539	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1501.3	1500.4	1499.6	1498.7	1497.8	1496.1	1493.5	1490.9	1488.4	1485.8	1488.1
5°	1496.5	1495.0	1493.7	1492.4	1491.0	1488.7	1485.5	1482.3	1479.1	1475.8	1478.2
7.5°	1482.6	1481.1	1479.7	1478.2	1476.8	1473.9	1469.7	1465.5	1461.3	1457.1	1458.5
10°	1471.0	1469.1	1467.1	1465.3	1463.4	1460.0	1455.2	1450.3	1445.5	1440.6	1440.9
12.5°	1454.5	1452.3	1450.3	1448.1	1446.0	1442.0	1436.1	1430.1	1424.2	1418.3	1418.1
15°	1427.3	1424.3	1421.3	1418.4	1415.4	1410.2	1402.6	1395.0	1387.5	1379.9	1378.6
17.5°	1393.0	1389.6	1386.2	1382.7	1379.2	1372.7	1363.1	1353.5	1343.9	1334.3	1331.4
20°	1367.8	1363.5	1359.1	1354.9	1350.5	1343.3	1333.0	1322.8	1312.5	1302.3	1298.8
22.5°	1339.6	1334.7	1329.7	1324.7	1319.8	1311.9	1300.9	1290.0	1279.2	1268.3	1263.9
25°	1298.6	1291.9	1285.1	1278.4	1271.7	1262.0	1249.6	1237.2	1224.9	1212.5	1206.8
27.5°	1248.8	1241.4	1233.9	1226.5	1219.1	1208.4	1194.6	1180.8	1167.0	1153.2	1145.3
30°	1214.9	1206.8	1198.7	1190.6	1182.5	1170.9	1155.8	1140.7	1125.6	1110.5	1101.4
32.5°	1180.9	1171.7	1162.5	1153.3	1144.2	1131.7	1115.7	1099.7	1083.7	1067.7	1057.7
35°	1123.8	1114.1	1104.4	1094.8	1085.0	1071.7	1055.1	1038.3	1021.6	1004.9	993.3
37.5°	1066.0	1055.3	1044.5	1033.7	1022.9	1008.6	990.8	972.9	955.0	937.2	924.0
40°	1029.2	1017.4	1005.4	993.5	981.7	966.2	947.1	927.9	908.7	889.6	875.6
42.5°	987.4	975.5	963.7	951.8	940.0	924.2	904.4	884.6	864.8	845.0	829.6
45°	923.6	911.4	899.3	887.2	875.0	858.6	837.9	817.1	796.3	775.5	760.2
47.5°	859.8	846.4	833.1	819.7	806.5	789.4	768.7	747.9	727.1	706.3	689.6
50°	813.2	800.5	787.8	775.2	762.4	745.2	723.4	701.5	679.7	657.8	641.1
52.5°	771.4	757.7	743.9	730.1	716.4	698.7	677.1	655.4	633.8	612.2	594.8
55°	701.5	688.3	675.0	661.8	648.6	630.5	607.6	584.7	561.8	538.9	523.3
57.5°	636.9	622.5	608.1	593.7	579.3	560.6	537.5	514.5	491.5	468.5	453.7
60°	592.3	577.5	562.6	547.8	532.9	514.3	492.0	469.6	447.2	424.8	410.2
62.5°	547.6	532.8	517.9	503.1	488.3	469.7	447.3	424.9	402.5	380.1	366.4
65°	479.4	464.6	449.7	434.9	420.1	402.2	381.1	360.1	339.0	318.0	304.8
67.5°	411.2	396.2	381.2	366.2	351.2	333.6	313.4	293.3	273.1	252.9	243.1
70°	366.5	352.0	337.4	322.8	308.3	291.6	272.7	253.8	234.9	216.1	206.6
72.5°	321.8	307.6	293.2	278.8	264.5	248.7	231.6	214.5	197.2	180.1	172.4
75°	253.7	240.7	227.7	214.8	201.9	188.0	173.2	158.3	143.5	128.7	125.9
77.5°	191.5	179.8	168.1	156.4	144.7	134.0	124.5	114.9	105.4	95.9	94.4
80°	151.7	140.6	129.6	118.5	107.5	99.2	93.5	87.7	82.1	76.4	75.6
82.5°	113.9	104.3	94.8	85.2	75.6	69.6	66.9	64.3	61.6	58.9	58.1
85°	64.3	58.4	52.4	46.5	40.6	37.2	36.4	35.6	34.8	34.0	33.4
87.5°	23.4	21.2	19.0	16.8	14.6	13.6	13.8	14.1	14.4	14.5	14.4
90°	0.4	1.2	2.1	3.0	3.9	5.0	6.2	7.3	8.5	9.6	10.0
92.5°	7.5	7.2	7.0	6.7	6.4	6.8	7.7	8.5	9.4	10.3	10.8
95°	24.4	20.8	17.1	13.5	9.8	8.5	9.5	10.4	11.4	12.4	13.0
97.5°	49.1	47.4	45.8	44.2	42.5	38.5	32.1	25.7	19.4	12.9	13.6
100°	67.7	69.5	71.2	73.0	74.8	68.8	54.9	41.0	27.1	13.2	13.9
102.5°	88.8	90.2	91.4	92.7	94.0	87.0	71.9	56.7	41.6	26.4	24.2
105°	119.4	120.4	121.4	122.3	123.3	119.8	111.7	103.8	95.8	87.7	72.0
107.5°	151.6	152.4	153.2	153.9	154.7	155.8	157.0	158.3	159.5	160.8	149.3
110°	173.1	173.8	174.5	175.2	175.9	176.7	177.7	178.7	179.7	180.7	177.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	193.6	194.2	194.8	195.5	196.2	197.0	198.0	198.9	199.9	200.9	200.9
115°	223.9	224.4	225.0	225.5	226.0	226.8	227.6	228.4	229.2	230.0	230.9
117.5°	253.3	254.0	254.7	255.3	256.0	256.5	256.9	257.3	257.8	258.2	258.9
120°	271.6	272.4	273.2	274.0	274.8	275.4	275.6	275.9	276.2	276.4	277.1
122.5°	290.3	290.9	291.5	292.2	292.8	293.4	293.7	294.0	294.4	294.7	295.2
125°	315.7	316.4	317.1	317.8	318.5	319.1	319.4	319.8	320.1	320.5	320.7
127.5°	340.4	341.1	341.8	342.5	343.2	343.8	344.2	344.6	345.1	345.5	345.8
130°	355.8	356.5	357.2	357.9	358.6	359.2	359.5	359.9	360.3	360.5	360.9
132.5°	370.5	371.2	371.9	372.6	373.4	373.8	374.2	374.4	374.7	375.0	375.3
135°	393.0	393.5	394.0	394.6	395.1	395.6	395.9	396.3	396.6	397.0	397.3
137.5°	412.2	413.0	413.6	414.3	414.9	415.4	415.6	415.8	416.0	416.2	416.6
140°	425.1	425.6	426.1	426.7	427.2	427.6	427.8	428.1	428.4	428.6	429.0
142.5°	436.9	437.5	438.0	438.5	439.1	439.4	439.7	440.0	440.2	440.5	440.8
145°	453.5	454.1	454.8	455.4	456.0	456.4	456.6	456.7	456.9	457.1	457.3
147.5°	469.1	469.6	469.9	470.4	470.7	471.1	471.3	471.4	471.6	471.8	472.0
150°	478.8	479.0	479.3	479.6	479.8	480.0	480.2	480.4	480.5	480.7	480.9
152.5°	487.4	487.5	487.7	487.8	487.9	488.0	488.1	488.2	488.3	488.5	488.7
155°	499.5	499.4	499.2	499.1	498.9	498.8	498.9	499.0	499.1	499.2	499.6
157.5°	509.1	509.0	509.0	509.0	509.0	508.9	508.8	508.7	508.6	508.5	509.1
160°	514.8	514.7	514.6	514.5	514.4	514.3	514.2	514.2	514.1	514.0	514.5
162.5°	520.2	520.0	519.8	519.6	519.3	519.2	519.1	519.0	518.9	518.8	519.4
165°	526.8	526.6	526.3	526.0	525.8	525.6	525.5	525.4	525.3	525.2	525.9
167.5°	532.0	531.6	531.3	530.9	530.6	530.4	530.4	530.4	530.4	530.4	531.1
170°	534.8	534.5	534.1	533.8	533.4	533.2	533.2	533.2	533.2	533.2	534.0
172.5°	536.7	536.4	535.9	535.5	535.0	534.8	534.9	535.0	535.1	535.1	535.8
175°	539.2	538.8	538.3	537.9	537.4	537.3	537.3	537.4	537.5	537.6	538.2
177.5°	539.8	539.5	539.1	538.8	538.4	538.3	538.4	538.4	538.5	538.6	539.1
180°	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1490.5	1492.9	1495.2	1496.2	1495.8	1495.4	1495.0	1494.5
5°	1480.7	1483.1	1485.5	1486.5	1485.9	1485.4	1484.9	1484.3
7.5°	1459.8	1461.2	1462.5	1462.8	1461.8	1460.9	1460.0	1459.0
10°	1441.2	1441.5	1441.7	1441.2	1439.8	1438.4	1437.1	1435.7
12.5°	1417.9	1417.8	1417.6	1416.8	1415.2	1413.6	1412.1	1410.5
15°	1377.2	1375.9	1374.6	1372.9	1371.0	1369.1	1367.3	1365.4
17.5°	1328.6	1325.7	1322.9	1320.0	1317.2	1314.4	1311.6	1308.8
20°	1295.2	1291.7	1288.3	1284.9	1281.7	1278.4	1275.1	1271.9
22.5°	1259.5	1255.2	1250.8	1247.1	1244.1	1241.1	1238.1	1235.0
25°	1201.1	1195.4	1189.8	1185.4	1182.5	1179.6	1176.6	1173.6
27.5°	1137.5	1129.6	1121.7	1115.5	1111.0	1106.4	1101.9	1097.4
30°	1092.2	1083.0	1073.8	1067.1	1062.7	1058.5	1054.1	1049.8
32.5°	1047.7	1037.7	1027.6	1020.4	1015.8	1011.3	1006.7	1002.2
35°	981.7	970.1	958.5	950.3	945.5	940.6	935.8	930.9
37.5°	910.9	897.7	884.6	874.9	869.0	863.0	857.0	851.0
40°	861.6	847.6	833.5	823.4	817.2	811.0	804.8	798.6
42.5°	814.3	799.0	783.6	773.2	767.7	762.1	756.5	751.0
45°	744.8	729.4	714.0	703.1	696.6	690.2	683.7	677.3
47.5°	672.9	656.2	639.4	628.2	622.4	616.7	610.9	605.1
50°	624.4	607.6	590.9	579.4	573.3	567.0	560.9	554.6
52.5°	577.5	560.1	542.7	531.2	525.7	520.1	514.6	509.0
55°	507.6	492.0	476.3	465.7	460.4	455.0	449.6	444.2
57.5°	438.9	424.1	409.4	399.7	395.1	390.5	385.9	381.3
60°	395.7	381.1	366.5	357.0	352.4	347.8	343.2	338.6
62.5°	352.7	339.0	325.3	316.0	311.3	306.5	301.7	296.9
65°	291.6	278.3	265.1	257.0	254.0	251.1	248.2	245.1
67.5°	233.2	223.3	213.5	206.9	203.8	200.5	197.3	194.2
70°	197.2	187.7	178.3	172.1	169.1	166.1	163.2	160.2
72.5°	164.7	156.9	149.3	144.8	143.6	142.3	141.1	139.8
75°	123.2	120.6	117.9	116.3	115.7	115.1	114.6	114.0
77.5°	93.0	91.5	90.1	89.1	88.5	88.0	87.5	86.9
80°	74.8	74.0	73.2	72.6	72.1	71.5	70.9	70.4
82.5°	57.3	56.5	55.7	55.3	55.2	55.1	54.9	54.8
85°	32.9	32.4	31.8	31.6	31.6	31.6	31.6	31.6
87.5°	14.3	14.1	14.0	13.8	13.6	13.5	13.3	13.1
90°	10.3	10.7	11.1	11.3	11.5	11.7	11.9	12.0
92.5°	11.4	11.9	12.6	12.8	13.0	13.1	13.2	13.3
95°	13.6	14.3	14.9	15.2	15.2	15.2	15.2	15.2
97.5°	14.4	15.1	15.8	16.1	16.2	16.3	16.4	16.5
100°	14.6	15.3	16.1	16.5	16.6	16.7	16.8	16.9
102.5°	21.9	19.7	17.6	16.5	16.7	16.9	16.9	17.1
105°	56.2	40.5	24.7	16.9	17.1	17.3	17.5	17.7
107.5°	137.7	126.2	114.6	102.9	91.0	79.1	67.2	55.4
110°	174.8	171.8	168.9	161.1	148.4	135.6	122.9	110.2



TEST NUMBER: P332452-940

CATALOG NUMBER: S123RDIW-S1000D460U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	201.0	201.0	201.1	199.7	197.1	194.4	191.7	189.0
115°	231.8	232.6	233.5	234.2	234.5	234.9	235.2	235.6
117.5°	259.6	260.3	261.0	261.4	261.4	261.5	261.6	261.7
120°	277.9	278.6	279.3	279.6	279.6	279.6	279.6	279.6
122.5°	295.7	296.2	296.7	296.9	297.0	297.1	297.2	297.3
125°	320.8	321.0	321.2	321.4	321.6	321.7	321.9	322.1
127.5°	346.1	346.3	346.6	346.7	346.5	346.3	346.2	346.0
130°	361.2	361.6	361.9	362.0	361.9	361.7	361.5	361.3
132.5°	375.7	376.0	376.4	376.5	376.2	375.9	375.7	375.5
135°	397.5	397.8	398.1	398.1	397.8	397.5	397.3	397.0
137.5°	417.1	417.4	417.9	418.0	417.9	417.7	417.5	417.3
140°	429.4	429.7	430.1	430.2	430.0	429.8	429.6	429.4
142.5°	441.1	441.4	441.7	441.7	441.4	441.2	441.0	440.7
145°	457.4	457.6	457.8	457.9	457.9	457.9	457.9	457.9
147.5°	472.2	472.3	472.5	472.3	472.0	471.5	471.2	470.7
150°	481.1	481.3	481.4	481.4	481.2	480.9	480.6	480.4
152.5°	489.1	489.4	489.7	489.6	489.3	488.8	488.5	488.0
155°	500.1	500.5	501.0	500.9	500.3	499.8	499.3	498.8
157.5°	509.6	510.1	510.7	510.6	509.9	509.3	508.5	507.8
160°	515.1	515.6	516.1	516.1	515.5	514.9	514.2	513.6
162.5°	520.0	520.7	521.2	521.3	520.7	520.1	519.6	519.1
165°	526.6	527.4	528.1	528.1	527.4	526.9	526.3	525.7
167.5°	531.8	532.4	533.2	533.2	532.4	531.8	531.1	530.4
170°	534.7	535.4	536.1	536.1	535.4	534.7	534.0	533.2
172.5°	536.5	537.3	538.0	538.0	537.2	536.4	535.7	534.8
175°	538.9	539.5	540.1	540.1	539.4	538.7	538.0	537.3
177.5°	539.8	540.3	540.9	540.8	540.1	539.4	538.7	538.0
180°	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2

(END OF REPORT)