

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: P332184-830

Luminaire Tested: **S123DIW-S1000D460U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332184-830
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: S123DIW-S1000D460U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5621.9 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

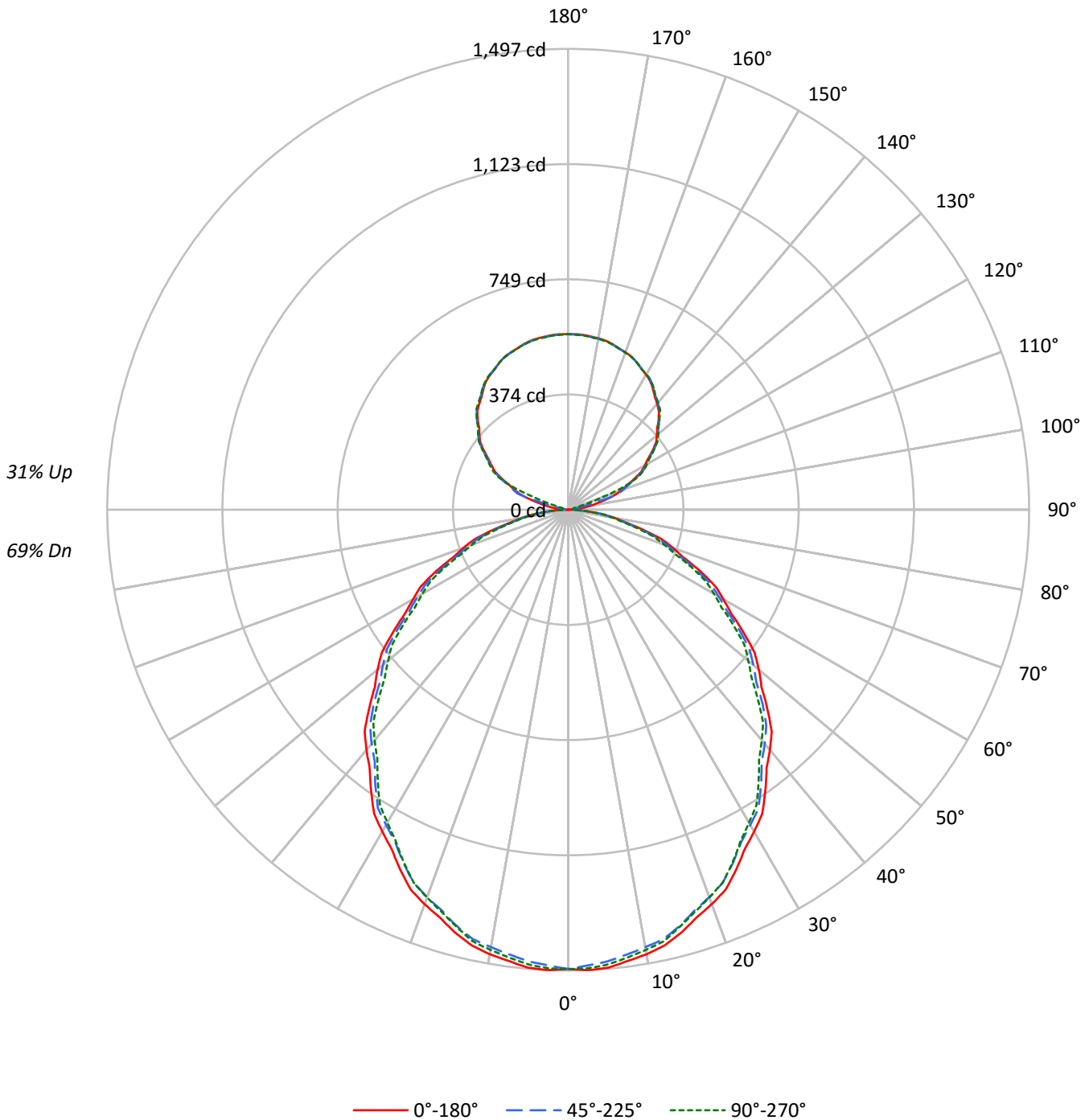
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	105	105	105	105	94	94	94	83	83	83	74	74	74	69
1	102	97	93	90	96	92	89	85	82	80	77	73	71	69	65	63	62	58
2	93	85	79	73	87	81	75	70	72	68	64	64	61	58	57	55	52	49
3	85	75	67	61	80	71	64	59	64	58	54	57	53	49	51	47	44	41
4	78	66	58	52	73	63	56	50	57	51	46	51	46	42	45	41	38	35
5	71	59	51	45	67	56	49	43	51	44	40	46	40	36	41	37	33	31
6	66	53	45	39	62	51	43	37	46	39	35	41	36	32	37	33	29	27
7	61	48	40	34	57	46	38	33	42	35	31	38	32	28	34	29	26	24
8	57	44	36	30	53	42	34	29	38	32	27	34	29	25	31	27	23	21
9	53	40	32	27	50	38	31	26	35	29	25	32	27	23	29	24	21	19
10	49	37	29	24	47	35	28	24	32	26	22	29	24	21	27	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16060	16060	16060
5°	16134	15913	16024
10°	16027	15774	15872
15°	15840	15597	15624
20°	15621	15341	15356
25°	15327	15037	15007
30°	15003	14701	14588
35°	14666	14345	14160
40°	14313	13952	13735
45°	13922	13592	13259
50°	13534	13147	12782
55°	13024	12688	12301
60°	12510	12152	11765
65°	12055	11566	11207
70°	11383	10902	10414
75°	10405	10031	9603
80°	9385	8988	8901
85°	8238	7929	7595



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	2.5
10°-20°	396.8	7.1
20°-30°	586.2	10.4
30°-40°	684.7	12.2
40°-50°	688.4	12.2
50°-60°	604.7	10.8
60°-70°	450.5	8.0
70°-80°	256.7	4.6
80°-90°	75.3	1.3
90°-100°	20.7	0.4
100°-110°	98.8	1.8
110°-120°	237.2	4.2
120°-130°	302.1	5.4
130°-140°	322.8	5.7
140°-150°	301.8	5.4
150°-160°	243.5	4.3
160°-170°	157.1	2.8
170°-180°	54.2	1.0
0°-30°	1123.5	20.0
0°-40°	1808.2	32.2
0°-60°	3101.3	55.2
0°-90°	3883.7	69.1
90°-120°	356.7	6.3
90°-150°	1283.4	22.8
90°-180°	1738.0	30.9
0°-180°	5621.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1492	1492	1492	1492	1492	
5°	1493	1486	1473	1485	1483	141
15°	1421	1416	1400	1409	1402	401
25°	1290	1282	1266	1267	1264	594
35°	1116	1108	1092	1084	1078	698
45°	915	909	893	878	871	706
55°	694	692	676	662	656	621
65°	473	467	454	444	440	467
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
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	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1497.0	1496.2	1495.2	1494.3	1493.5	1491.7	1489.2	1486.7	1484.2	1481.7	1483.9
5°	1493.2	1491.8	1490.3	1488.9	1487.5	1485.3	1482.1	1478.9	1475.8	1472.7	1475.6
7.5°	1478.6	1477.2	1475.7	1474.3	1472.9	1470.6	1467.4	1464.1	1460.8	1457.5	1460.1
10°	1466.3	1464.9	1463.4	1462.0	1460.6	1458.0	1454.3	1450.6	1446.9	1443.2	1445.8
12.5°	1449.8	1448.7	1447.5	1446.2	1445.1	1442.7	1439.3	1435.8	1432.3	1428.8	1430.7
15°	1421.4	1420.2	1419.1	1418.0	1416.8	1414.4	1410.7	1407.0	1403.3	1399.6	1401.8
17.5°	1388.3	1386.8	1385.3	1383.8	1382.3	1379.8	1376.0	1372.3	1368.7	1364.9	1366.5
20°	1363.7	1362.0	1360.3	1358.5	1356.8	1354.1	1350.4	1346.7	1343.0	1339.3	1340.4
22.5°	1336.0	1334.3	1332.6	1330.8	1329.1	1326.4	1322.7	1319.0	1315.3	1311.5	1312.5
25°	1290.5	1288.8	1287.1	1285.4	1283.6	1281.0	1277.2	1273.6	1269.9	1266.1	1266.4
27.5°	1242.1	1240.4	1238.7	1237.1	1235.4	1232.6	1228.6	1224.6	1220.6	1216.6	1216.8
30°	1207.1	1205.7	1204.3	1202.9	1201.5	1198.7	1194.8	1190.7	1186.8	1182.8	1182.8
32.5°	1172.2	1170.4	1168.5	1166.6	1164.7	1162.2	1159.1	1156.1	1153.0	1149.9	1148.3
35°	1116.1	1114.4	1112.7	1111.0	1109.2	1106.5	1102.8	1099.1	1095.4	1091.7	1090.0
37.5°	1058.6	1056.4	1054.2	1052.1	1049.9	1047.0	1043.2	1039.4	1035.7	1031.9	1029.8
40°	1018.6	1016.8	1015.1	1013.4	1011.7	1008.9	1004.8	1000.9	996.9	992.9	990.6
42.5°	978.5	976.6	974.7	972.7	970.8	967.8	963.8	959.9	955.8	951.9	949.6
45°	914.6	913.5	912.4	911.3	910.1	907.7	904.0	900.2	896.5	892.9	889.5
47.5°	851.3	849.6	848.0	846.3	844.7	842.1	838.7	835.2	831.7	828.2	824.8
50°	808.2	806.7	805.3	803.9	802.5	799.9	796.2	792.5	788.8	785.1	781.9
52.5°	763.0	762.0	761.1	760.2	759.1	756.7	752.8	748.9	744.9	740.9	738.3
55°	694.0	693.7	693.4	693.1	692.9	690.9	687.2	683.4	679.8	676.1	672.9
57.5°	628.3	627.4	626.4	625.5	624.4	622.5	619.5	616.5	613.6	610.7	607.8
60°	581.1	580.8	580.5	580.2	579.9	578.2	574.7	571.3	567.9	564.5	561.8
62.5°	539.0	538.3	537.5	536.8	536.1	534.0	530.6	527.2	523.8	520.3	517.7
65°	473.3	471.9	470.5	469.1	467.7	465.5	462.7	459.9	456.9	454.1	451.9
67.5°	403.9	402.6	401.3	400.1	398.8	397.1	394.9	392.8	390.6	388.4	386.4
70°	361.7	360.1	358.4	356.7	355.0	353.2	351.5	349.8	348.1	346.4	344.4
72.5°	317.6	316.4	315.1	313.9	312.6	311.0	309.1	307.2	305.2	303.2	301.5
75°	250.2	249.0	247.9	246.8	245.6	244.6	243.7	242.9	242.0	241.2	239.8
77.5°	190.4	189.7	189.1	188.5	187.8	187.0	186.1	185.0	184.0	182.9	182.0
80°	151.4	150.5	149.7	148.8	148.0	147.2	146.7	146.1	145.5	145.0	144.7
82.5°	113.4	113.2	113.1	112.9	112.7	112.5	112.4	112.4	112.3	112.2	111.6
85°	66.7	66.2	65.6	65.0	64.5	64.2	64.2	64.2	64.2	64.2	63.5
87.5°	26.8	26.3	25.7	25.3	24.8	24.5	24.6	24.6	24.6	24.6	24.4
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



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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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1486.2	1488.6	1490.8	1491.9	1491.6	1491.4	1491.1	1490.9
5°	1478.4	1481.2	1484.1	1485.3	1484.7	1484.1	1483.6	1483.0
7.5°	1462.7	1465.3	1467.8	1469.0	1468.6	1468.3	1467.9	1467.5
10°	1448.3	1450.9	1453.5	1454.4	1453.9	1453.3	1452.7	1452.2
12.5°	1432.6	1434.5	1436.3	1437.1	1436.8	1436.4	1436.1	1435.8
15°	1404.1	1406.4	1408.7	1409.0	1407.3	1405.5	1403.8	1402.1
17.5°	1368.1	1369.7	1371.3	1371.8	1371.2	1370.6	1369.9	1369.3
20°	1341.5	1342.7	1343.9	1344.0	1343.1	1342.3	1341.4	1340.6
22.5°	1313.4	1314.3	1315.2	1315.1	1314.1	1313.0	1311.9	1310.8
25°	1266.7	1267.1	1267.3	1267.1	1266.1	1265.3	1264.4	1263.6
27.5°	1217.1	1217.3	1217.6	1217.1	1216.1	1214.9	1213.9	1212.8
30°	1182.8	1182.8	1182.8	1181.8	1179.8	1177.8	1175.8	1173.7
32.5°	1146.7	1145.2	1143.6	1142.2	1141.1	1140.0	1139.0	1137.8
35°	1088.3	1086.6	1084.9	1083.3	1081.9	1080.4	1079.0	1077.6
37.5°	1027.8	1025.8	1023.7	1022.2	1021.3	1020.4	1019.5	1018.6
40°	988.4	986.1	983.8	982.0	980.9	979.8	978.6	977.5
42.5°	947.3	945.0	942.7	941.0	939.9	938.8	937.6	936.5
45°	886.0	882.6	879.2	876.8	875.3	873.9	872.5	871.0
47.5°	821.4	818.1	814.7	812.5	811.2	809.9	808.7	807.4
50°	778.8	775.7	772.5	770.2	768.5	766.7	765.0	763.3
52.5°	735.6	732.9	730.3	728.0	726.3	724.6	722.9	721.2
55°	669.8	666.7	663.5	661.2	659.8	658.4	657.0	655.5
57.5°	605.0	602.3	599.5	597.2	595.6	593.9	592.3	590.6
60°	559.3	556.8	554.2	552.2	550.7	549.3	547.9	546.5
62.5°	515.2	512.6	510.0	508.3	507.3	506.3	505.4	504.4
65°	449.6	447.2	445.0	443.5	442.6	441.8	440.8	440.0
67.5°	384.5	382.5	380.5	378.9	377.7	376.5	375.2	374.1
70°	342.3	340.4	338.4	336.7	335.3	333.8	332.4	330.9
72.5°	299.7	297.9	296.1	294.9	294.2	293.4	292.8	292.0
75°	238.4	236.9	235.4	234.3	233.5	232.6	231.8	230.9
77.5°	181.0	180.0	179.1	178.6	178.6	178.6	178.6	178.6
80°	144.4	144.1	143.8	143.6	143.6	143.6	143.6	143.6
82.5°	111.1	110.6	110.1	109.7	109.4	109.2	109.1	108.8
85°	63.0	62.4	61.8	61.5	61.5	61.5	61.5	61.5
87.5°	24.3	24.1	24.0	23.9	23.9	24.0	24.0	24.1
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: P332184-830

CATALOG NUMBER: S123DIW-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)