

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: P332015-830

Luminaire Tested: **S123DIP-S1000D585U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332015-830  
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: S123DIP-S1000D585U830-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6090.8 lumens  
Efficiency: N/A  
Efficacy: 124.8 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

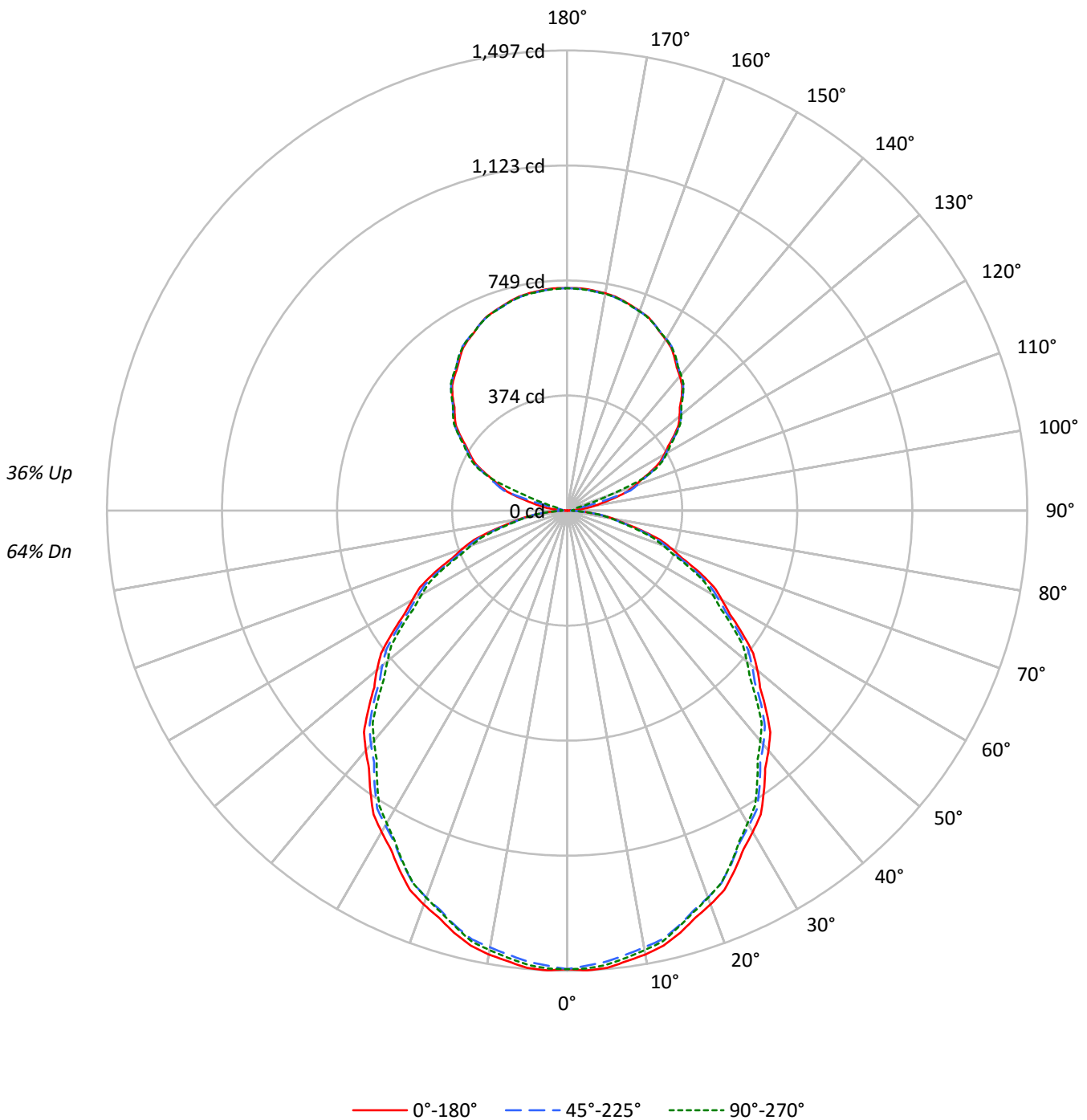
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	104	104	104	104	91	91	91		79	79	79		69	69	69	64
1	101	96	92	89	94	91	87	84	80	77	75		70	68	66		61	59	58	54
2	92	84	78	72	86	79	74	69	70	66	62		61	58	55		53	51	49	45
3	84	74	66	60	78	70	63	58	62	56	52		54	50	47		47	44	41	38
4	77	65	57	51	72	62	54	49	55	49	44		48	44	40		42	39	36	32
5	70	58	50	44	66	55	48	42	49	43	38		43	38	35		38	34	31	28
6	65	52	44	38	61	50	42	37	44	38	33		39	34	30		35	31	27	25
7	60	47	39	34	56	45	37	32	40	34	30		36	31	27		32	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26		33	28	24		29	25	22	20
9	52	39	32	27	49	37	30	26	34	28	24		30	25	22		27	23	20	18
10	49	36	29	24	46	35	28	23	31	25	21		28	23	20		25	21	18	16

**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	2.3
10°-20°	396.8	6.5
20°-30°	586.2	9.6
30°-40°	684.7	11.2
40°-50°	688.4	11.3
50°-60°	604.7	9.9
60°-70°	450.5	7.4
70°-80°	256.7	4.2
80°-90°	75.7	1.2
90°-100°	26.3	0.4
100°-110°	125.4	2.1
110°-120°	301.2	4.9
120°-130°	383.5	6.3
130°-140°	409.8	6.7
140°-150°	383.2	6.3
150°-160°	309.1	5.1
160°-170°	199.5	3.3
170°-180°	68.7	1.1
0°-30°	1123.5	18.4
0°-40°	1808.2	29.7
0°-60°	3101.3	50.9
0°-90°	3884.2	63.8
90°-120°	452.8	7.4
90°-150°	1629.3	26.8
90°-180°	2207.0	36.2
0°-180°	6090.8	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°	1	6	13	15	16	5
95°	33	12	17	20	20	41
105°	160	163	118	28	24	170
115°	300	304	309	314	316	297
125°	424	428	430	431	432	378
135°	527	531	533	534	533	406
145°	608	612	613	614	614	381
155°	670	669	670	672	669	309
165°	707	705	705	709	705	200
175°	724	721	721	725	721	69
180°	724	724	724	724	724	



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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	26.4	25.9	25.4	25.0	24.8	24.9	25.0	25.1	25.2	25.1
90°	0.6	1.7	2.9	4.1	5.3	6.7	8.2	9.8	11.3	12.9	13.4
92.5°	10.0	9.7	9.3	9.0	8.7	9.0	10.3	11.4	12.6	13.8	14.5
95°	32.8	27.9	23.0	18.1	13.2	11.4	12.7	14.0	15.4	16.7	17.5
97.5°	65.9	63.7	61.5	59.3	57.1	51.7	43.1	34.5	25.9	17.3	18.3
100°	90.9	93.2	95.7	98.0	100.4	92.3	73.6	55.0	36.4	17.7	18.7
102.5°	119.2	120.9	122.7	124.4	126.1	116.8	96.4	76.1	55.7	35.3	32.4
105°	160.2	161.6	162.9	164.1	165.4	160.7	150.0	139.2	128.5	117.7	96.6
107.5°	203.4	204.4	205.6	206.6	207.6	209.0	210.7	212.4	214.1	215.7	200.3
110°	232.2	233.2	234.1	235.1	236.0	237.2	238.5	239.8	241.1	242.4	238.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	259.8	260.6	261.5	262.3	263.2	264.3	265.6	266.9	268.2	269.6	269.7
115°	300.5	301.2	301.9	302.7	303.4	304.3	305.4	306.4	307.5	308.6	309.8
117.5°	340.0	340.8	341.8	342.6	343.5	344.2	344.8	345.3	345.9	346.4	347.4
120°	364.5	365.5	366.6	367.7	368.8	369.5	369.9	370.2	370.6	370.9	371.9
122.5°	389.5	390.3	391.2	392.1	392.9	393.6	394.1	394.5	395.0	395.5	396.2
125°	423.6	424.6	425.6	426.5	427.4	428.2	428.7	429.1	429.6	430.1	430.3
127.5°	456.8	457.7	458.6	459.6	460.5	461.3	461.8	462.5	463.1	463.6	464.0
130°	477.4	478.3	479.3	480.2	481.2	481.9	482.4	482.9	483.3	483.8	484.3
132.5°	497.2	498.1	499.1	500.0	501.0	501.6	502.0	502.4	502.8	503.2	503.7
135°	527.4	528.1	528.8	529.5	530.3	530.8	531.3	531.8	532.3	532.7	533.1
137.5°	553.2	554.1	555.0	555.9	556.8	557.4	557.6	557.9	558.2	558.5	559.0
140°	570.3	571.1	571.8	572.5	573.3	573.8	574.1	574.5	574.9	575.2	575.7
142.5°	586.3	587.0	587.8	588.4	589.2	589.7	590.0	590.4	590.8	591.2	591.5
145°	608.5	609.4	610.2	611.1	611.9	612.5	612.7	612.9	613.1	613.4	613.6
147.5°	629.5	630.1	630.7	631.1	631.7	632.1	632.4	632.5	632.8	633.1	633.3
150°	642.4	642.8	643.1	643.5	643.9	644.1	644.4	644.6	644.9	645.1	645.4
152.5°	654.0	654.2	654.3	654.5	654.7	654.9	655.0	655.2	655.3	655.4	655.8
155°	670.3	670.1	669.9	669.7	669.4	669.4	669.5	669.6	669.7	669.9	670.4
157.5°	683.1	683.1	683.0	683.0	683.0	682.9	682.8	682.7	682.5	682.4	683.2
160°	690.8	690.7	690.6	690.4	690.3	690.2	690.0	689.9	689.8	689.8	690.4
162.5°	698.1	697.8	697.5	697.2	696.8	696.6	696.5	696.4	696.3	696.2	697.0
165°	706.9	706.5	706.2	705.9	705.5	705.2	705.1	705.0	704.9	704.7	705.8
167.5°	713.8	713.3	712.8	712.4	711.9	711.6	711.6	711.6	711.6	711.6	712.7
170°	717.7	717.2	716.7	716.2	715.8	715.5	715.5	715.5	715.5	715.5	716.5
172.5°	720.3	719.7	719.1	718.5	717.9	717.7	717.8	717.9	718.0	718.1	719.1
175°	723.6	723.0	722.4	721.8	721.2	721.0	721.0	721.2	721.3	721.4	722.3
177.5°	724.4	724.0	723.5	723.0	722.6	722.4	722.5	722.6	722.6	722.7	723.5
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6



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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°	24.9	24.8	24.6	24.6	24.6	24.7	24.7	24.8
90°	13.9	14.3	14.8	15.2	15.5	15.6	15.9	16.1
92.5°	15.3	16.0	16.8	17.2	17.4	17.5	17.7	17.8
95°	18.4	19.1	20.0	20.5	20.5	20.5	20.5	20.5
97.5°	19.2	20.2	21.1	21.7	21.8	21.9	22.1	22.1
100°	19.6	20.6	21.6	22.1	22.2	22.3	22.4	22.6
102.5°	29.4	26.5	23.6	22.1	22.3	22.6	22.8	23.0
105°	75.4	54.3	33.2	22.7	22.9	23.2	23.4	23.7
107.5°	184.7	169.3	153.7	138.1	122.1	106.1	90.2	74.3
110°	234.6	230.6	226.7	216.1	199.1	182.0	164.9	147.8





TEST NUMBER: P332015-830

CATALOG NUMBER: S123DIP-S1000D585U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	269.7	269.8	269.8	268.1	264.5	260.8	257.2	253.6
115°	310.9	312.2	313.4	314.1	314.6	315.2	315.7	316.1
117.5°	348.4	349.3	350.2	350.8	350.9	351.0	351.1	351.2
120°	372.9	373.8	374.8	375.2	375.2	375.2	375.2	375.2
122.5°	396.8	397.5	398.1	398.5	398.6	398.7	398.8	398.9
125°	430.6	430.7	431.0	431.3	431.5	431.8	432.0	432.3
127.5°	464.4	464.8	465.1	465.2	465.0	464.8	464.5	464.3
130°	484.7	485.2	485.7	485.9	485.6	485.4	485.1	484.9
132.5°	504.2	504.6	505.1	505.2	504.8	504.4	504.2	503.8
135°	533.5	533.9	534.1	534.1	533.9	533.5	533.1	532.7
137.5°	559.6	560.2	560.7	560.9	560.6	560.4	560.2	560.0
140°	576.2	576.6	577.1	577.2	577.0	576.7	576.6	576.3
142.5°	591.9	592.3	592.7	592.7	592.4	592.0	591.6	591.4
145°	613.9	614.1	614.3	614.4	614.4	614.4	614.4	614.4
147.5°	633.6	633.8	634.0	633.9	633.3	632.7	632.3	631.7
150°	645.5	645.8	646.0	646.0	645.6	645.3	644.9	644.6
152.5°	656.3	656.7	657.1	657.0	656.6	656.0	655.4	654.9
155°	671.0	671.7	672.2	672.1	671.5	670.7	670.1	669.3
157.5°	683.8	684.6	685.3	685.1	684.2	683.3	682.4	681.5
160°	691.2	691.8	692.6	692.5	691.7	690.9	690.0	689.2
162.5°	697.8	698.6	699.5	699.5	698.7	698.0	697.2	696.5
165°	706.7	707.7	708.6	708.7	707.8	707.0	706.2	705.3
167.5°	713.6	714.5	715.5	715.5	714.5	713.6	712.7	711.6
170°	717.5	718.4	719.3	719.3	718.4	717.5	716.5	715.5
172.5°	720.0	721.0	721.9	721.9	720.9	719.8	718.7	717.7
175°	723.1	724.0	724.8	724.7	723.8	722.8	721.9	720.9
177.5°	724.2	725.0	725.8	725.7	724.7	723.8	722.8	721.9
180°	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6

(END OF REPORT)