

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: P332017

Luminaire Tested: **S123DIP-S1000D585U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332017  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D585U835-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6240.8 lumens  
Efficiency: N/A  
Efficacy: 127.9 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

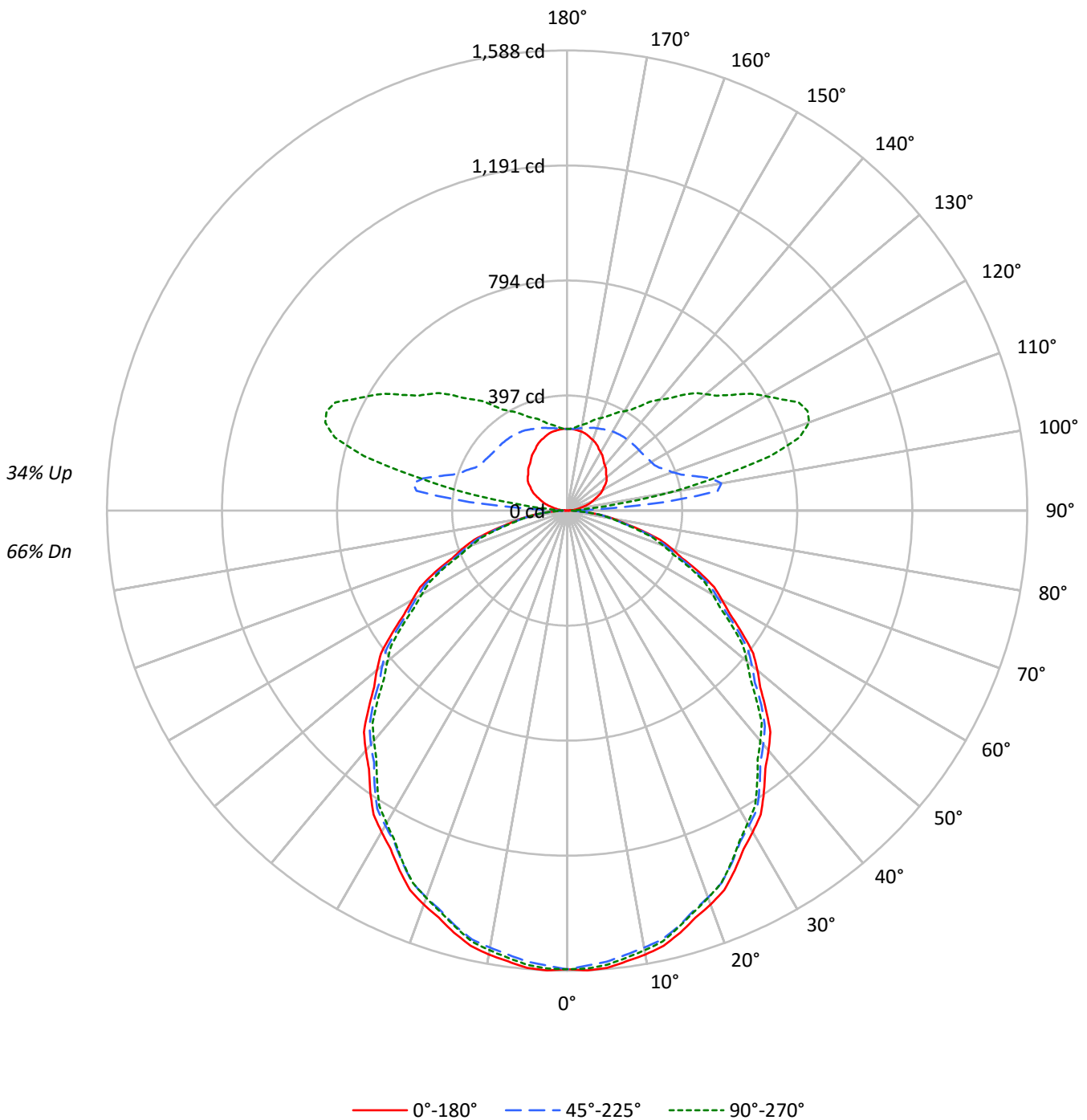
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66
1	101	97	93	89	95	91	88	85	81	78	76	71	69	67	63	61	60	55
2	92	85	78	73	87	80	74	69	71	66	63	63	59	56	55	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	48	49	45	43	39
4	77	66	58	51	72	62	55	49	56	50	45	49	45	41	44	40	37	34
5	71	59	50	44	66	56	48	42	50	44	39	44	39	35	39	35	32	29
6	65	53	44	38	61	50	42	37	45	39	34	40	35	31	36	31	28	26
7	60	48	40	34	57	45	38	33	41	35	30	37	31	28	33	28	25	23
8	56	43	35	30	53	41	34	29	37	31	27	33	28	25	30	26	23	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	23	20	18
10	49	37	29	24	46	35	28	23	32	26	22	29	24	20	26	21	19	17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	17038	17038	17038
5°	17117	16883	17001
10°	17004	16736	16840
15°	16805	16547	16577
20°	16573	16276	16292
25°	16262	15954	15922
30°	15918	15597	15478
35°	15559	15219	15023
40°	15185	14802	14573
45°	14772	14420	14067
50°	14359	13949	13561
55°	13818	13461	13052
60°	13272	12893	12482
65°	12791	12271	11889
70°	12079	11566	11050
75°	11038	10643	10189
80°	9955	9534	9447
85°	8744	8410	8065



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.1	2.4
10°-20°	421.0	6.7
20°-30°	621.9	10.0
30°-40°	726.5	11.6
40°-50°	730.4	11.7
50°-60°	641.5	10.3
60°-70°	478.0	7.7
70°-80°	272.3	4.4
80°-90°	80.3	1.3
90°-100°	156.8	2.5
100°-110°	444.0	7.1
110°-120°	436.8	7.0
120°-130°	348.4	5.6
130°-140°	274.7	4.4
140°-150°	205.0	3.3
150°-160°	142.9	2.3
160°-170°	83.9	1.3
170°-180°	27.3	0.4
0°-30°	1192.0	19.1
0°-40°	1918.5	30.7
0°-60°	3290.4	52.7
0°-90°	4121.0	66.0
90°-120°	1037.6	16.6
90°-150°	1865.7	29.9
90°-180°	2120.0	34.0
0°-180°	6240.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1583	1583	1583	1583	1583	
5°	1584	1577	1562	1575	1573	150
15°	1508	1502	1485	1495	1488	425
25°	1369	1360	1343	1344	1341	630
35°	1184	1175	1158	1150	1143	740
45°	970	964	947	932	924	749
55°	736	734	717	703	696	659
65°	502	495	482	471	467	495
75°	265	260	256	249	245	284
85°	71	68	68	65	65	78
90°	1	7	14	16	16	5
95°	19	63	338	99	66	21
105°	66	98	459	802	726	70
115°	117	146	351	769	882	116
125°	163	192	327	593	696	144
135°	190	227	323	489	564	147
145°	217	249	319	401	441	136
155°	247	266	309	351	366	114
165°	270	278	296	313	319	76
175°	281	282	284	288	287	27
180°	282	282	282	282	282	



TEST NUMBER: P332017

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9
2.5°	1588.3	1587.4	1586.4	1585.4	1584.5	1582.6	1580.0	1577.3	1574.7	1572.0	1574.4
5°	1584.2	1582.7	1581.2	1579.7	1578.2	1575.8	1572.5	1569.1	1565.8	1562.5	1565.5
7.5°	1568.7	1567.2	1565.7	1564.2	1562.7	1560.2	1556.8	1553.3	1549.9	1546.4	1549.1
10°	1555.7	1554.2	1552.6	1551.1	1549.6	1546.9	1543.0	1539.0	1535.1	1531.2	1533.9
12.5°	1538.2	1537.0	1535.7	1534.4	1533.2	1530.7	1527.0	1523.3	1519.6	1515.9	1517.9
15°	1508.0	1506.8	1505.6	1504.4	1503.2	1500.6	1496.7	1492.8	1488.8	1484.9	1487.3
17.5°	1472.9	1471.3	1469.8	1468.2	1466.6	1463.9	1459.9	1456.0	1452.1	1448.1	1449.8
20°	1446.8	1445.0	1443.2	1441.3	1439.5	1436.6	1432.7	1428.8	1424.9	1420.9	1422.1
22.5°	1417.4	1415.6	1413.8	1411.9	1410.1	1407.3	1403.3	1399.4	1395.5	1391.5	1392.5
25°	1369.2	1367.4	1365.6	1363.8	1361.9	1359.1	1355.1	1351.2	1347.3	1343.3	1343.6
27.5°	1317.8	1316.0	1314.2	1312.5	1310.7	1307.7	1303.5	1299.3	1295.0	1290.8	1291.0
30°	1280.7	1279.2	1277.7	1276.2	1274.7	1271.8	1267.6	1263.3	1259.1	1254.9	1254.9
32.5°	1243.7	1241.7	1239.7	1237.7	1235.7	1233.1	1229.8	1226.6	1223.3	1220.0	1218.3
35°	1184.1	1182.3	1180.5	1178.7	1176.8	1174.0	1170.0	1166.1	1162.2	1158.2	1156.4
37.5°	1123.1	1120.8	1118.5	1116.2	1113.9	1110.8	1106.8	1102.8	1098.8	1094.8	1092.6
40°	1080.7	1078.8	1077.0	1075.2	1073.4	1070.4	1066.1	1061.9	1057.7	1053.4	1051.0
42.5°	1038.2	1036.1	1034.1	1032.0	1030.0	1026.8	1022.6	1018.4	1014.1	1009.9	1007.5
45°	970.4	969.2	968.0	966.8	965.6	963.0	959.1	955.1	951.2	947.3	943.7
47.5°	903.2	901.4	899.7	897.9	896.2	893.4	889.8	886.1	882.4	878.7	875.1
50°	857.5	855.9	854.4	852.9	851.4	848.7	844.7	840.8	836.9	833.0	829.6
52.5°	809.5	808.5	807.5	806.5	805.4	802.8	798.7	794.5	790.3	786.1	783.3
55°	736.3	736.0	735.7	735.4	735.1	733.0	729.1	725.1	721.2	717.3	713.9
57.5°	666.6	665.6	664.6	663.6	662.5	660.4	657.3	654.1	651.0	647.9	644.9
60°	616.5	616.2	615.9	615.6	615.3	613.4	609.7	606.1	602.5	598.9	596.1
62.5°	571.9	571.1	570.3	569.5	568.8	566.6	562.9	559.3	555.7	552.0	549.3
65°	502.2	500.7	499.2	497.7	496.2	493.9	490.9	487.9	484.8	481.8	479.4
67.5°	428.5	427.1	425.8	424.5	423.1	421.3	419.0	416.7	414.4	412.1	410.0
70°	383.8	382.0	380.2	378.4	376.6	374.7	372.9	371.1	369.3	367.5	365.4
72.5°	337.0	335.7	334.3	333.0	331.7	330.0	327.9	325.9	323.8	321.7	319.9
75°	265.4	264.2	263.0	261.8	260.6	259.5	258.6	257.7	256.8	255.9	254.4
77.5°	202.0	201.3	200.6	200.0	199.3	198.4	197.4	196.3	195.2	194.1	193.1
80°	160.6	159.7	158.8	157.9	157.0	156.2	155.6	155.0	154.4	153.8	153.5
82.5°	120.3	120.1	120.0	119.8	119.6	119.4	119.3	119.2	119.1	119.0	118.4
85°	70.8	70.2	69.6	69.0	68.4	68.1	68.1	68.1	68.1	68.1	67.4
87.5°	28.5	28.0	27.5	27.2	26.7	26.4	26.5	26.6	26.7	26.8	26.5
90°	1.1	2.3	3.4	5.1	6.3	7.4	9.1	10.8	12.5	14.3	13.7
92.5°	7.1	10.5	15.3	19.7	24.5	33.0	47.9	72.4	96.5	87.7	66.2
95°	19.4	21.1	27.4	37.1	51.9	74.1	122.6	207.6	301.2	338.2	274.3
97.5°	33.1	33.7	38.6	47.0	61.6	85.7	132.0	227.8	383.7	524.2	560.8
100°	42.2	42.8	46.8	54.8	68.4	90.7	130.6	215.0	365.0	540.1	652.5
102.5°	51.8	52.8	56.4	63.9	76.2	96.6	132.4	204.1	337.7	510.5	657.1
105°	66.2	67.9	71.3	78.1	89.0	106.7	137.5	196.2	304.0	458.6	622.3
107.5°	81.4	83.2	86.5	93.2	103.4	119.8	146.8	195.6	282.6	412.7	561.4
110°	92.4	94.1	97.0	103.2	112.9	128.9	154.6	197.9	274.3	386.7	523.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	102.4	104.2	107.0	113.3	123.0	138.5	162.3	202.5	269.8	369.4	489.7
115°	116.9	119.2	122.6	128.3	138.0	153.4	175.1	209.9	268.1	350.8	449.5
117.5°	131.4	134.0	136.9	142.1	153.0	167.2	188.7	219.7	269.1	339.8	425.2
120°	141.5	143.2	146.0	151.7	162.6	176.8	197.3	227.0	270.9	334.8	412.4
122.5°	150.1	151.8	154.7	160.8	171.2	186.4	206.5	233.9	274.1	331.6	401.9
125°	162.6	163.7	167.1	173.4	184.2	199.6	219.6	244.7	278.9	327.4	388.4
127.5°	172.0	173.7	178.0	184.3	196.3	211.7	231.0	253.6	284.4	325.3	376.6
130°	178.0	179.7	184.8	191.6	203.6	219.0	237.8	259.5	288.0	324.0	370.2
132.5°	182.5	184.7	190.3	198.5	210.5	225.4	243.8	265.0	290.8	323.5	364.2
135°	190.5	192.8	199.1	207.6	219.6	235.0	252.7	272.1	294.9	322.8	356.5
137.5°	198.0	200.4	206.6	215.7	227.6	241.8	258.8	277.3	297.6	321.6	349.8
140°	203.1	205.9	211.6	220.7	232.1	246.4	262.9	280.1	299.4	321.1	345.6
142.5°	208.5	210.9	217.1	225.3	236.7	250.1	266.1	282.8	300.8	320.2	342.0
145°	217.3	219.0	224.2	232.7	242.4	255.5	270.4	285.8	301.7	318.8	337.1
147.5°	226.2	227.2	232.3	239.7	249.0	260.2	273.8	287.6	301.7	316.7	332.3
150°	232.1	232.7	237.3	244.7	252.7	262.9	276.1	288.0	301.7	314.8	329.1
152.5°	238.1	238.2	242.8	249.3	256.3	266.1	277.4	289.0	300.4	312.6	325.5
155°	247.0	247.0	250.4	256.1	262.4	270.4	280.1	289.2	298.9	308.6	320.0
157.5°	254.0	254.5	257.2	262.3	267.6	273.8	281.5	289.8	296.9	305.0	313.8
160°	259.5	259.5	261.8	266.4	270.4	276.1	282.9	289.8	296.0	302.3	309.7
162.5°	263.6	263.6	265.5	269.1	272.6	277.4	283.4	289.3	294.2	299.6	305.6
165°	269.8	269.2	270.4	273.2	275.5	279.5	284.0	288.0	291.5	295.5	300.0
167.5°	274.5	273.8	274.3	276.5	278.1	280.6	283.9	287.1	288.7	291.3	294.7
170°	277.2	276.1	276.6	278.3	279.5	280.6	283.5	285.8	286.9	288.6	291.5
172.5°	279.0	278.3	278.5	279.7	280.4	281.1	283.5	285.3	285.5	286.3	288.3
175°	281.2	280.6	280.1	281.2	281.2	281.8	282.9	284.0	283.5	283.5	284.6
177.5°	282.2	281.8	281.3	281.8	281.8	281.8	282.2	283.1	282.2	281.8	282.2
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9	1582.9
2.5°	1576.8	1579.3	1581.7	1582.8	1582.5	1582.3	1582.0	1581.8
5°	1568.5	1571.5	1574.6	1575.8	1575.2	1574.6	1574.0	1573.4
7.5°	1551.9	1554.6	1557.3	1558.5	1558.1	1557.8	1557.4	1557.0
10°	1536.6	1539.3	1542.1	1543.1	1542.5	1541.9	1541.3	1540.7
12.5°	1519.9	1521.9	1523.9	1524.7	1524.4	1524.0	1523.6	1523.3
15°	1489.7	1492.1	1494.6	1494.9	1493.1	1491.2	1489.4	1487.6
17.5°	1451.5	1453.2	1454.9	1455.4	1454.8	1454.1	1453.4	1452.8
20°	1423.3	1424.6	1425.8	1425.9	1425.0	1424.1	1423.2	1422.3
22.5°	1393.5	1394.4	1395.4	1395.3	1394.2	1393.0	1391.9	1390.7
25°	1343.9	1344.3	1344.6	1344.3	1343.3	1342.4	1341.5	1340.6
27.5°	1291.3	1291.5	1291.8	1291.3	1290.2	1289.0	1287.9	1286.7
30°	1254.9	1254.9	1254.9	1253.8	1251.7	1249.6	1247.5	1245.3
32.5°	1216.6	1215.0	1213.3	1211.8	1210.7	1209.5	1208.4	1207.2
35°	1154.6	1152.8	1151.0	1149.3	1147.8	1146.3	1144.8	1143.3
37.5°	1090.5	1088.3	1086.1	1084.5	1083.6	1082.6	1081.6	1080.7
40°	1048.6	1046.2	1043.8	1041.9	1040.7	1039.5	1038.3	1037.1
42.5°	1005.0	1002.6	1000.2	998.4	997.2	996.0	994.8	993.6
45°	940.0	936.4	932.8	930.2	928.7	927.2	925.7	924.1
47.5°	871.5	868.0	864.4	862.0	860.6	859.3	858.0	856.6
50°	826.3	823.0	819.6	817.1	815.3	813.4	811.6	809.8
52.5°	780.4	777.6	774.8	772.4	770.6	768.8	767.0	765.2
55°	710.6	707.3	704.0	701.5	700.0	698.5	697.0	695.5
57.5°	641.9	639.0	636.0	633.6	631.9	630.1	628.4	626.6
60°	593.4	590.7	588.0	585.9	584.3	582.8	581.3	579.8
62.5°	546.6	543.9	541.1	539.3	538.2	537.2	536.2	535.2
65°	477.0	474.5	472.1	470.5	469.6	468.7	467.7	466.8
67.5°	407.9	405.8	403.7	402.0	400.7	399.4	398.1	396.9
70°	363.2	361.1	359.0	357.2	355.7	354.2	352.7	351.1
72.5°	318.0	316.1	314.2	312.9	312.1	311.3	310.6	309.8
75°	252.9	251.3	249.8	248.6	247.7	246.8	245.9	245.0
77.5°	192.0	191.0	190.0	189.5	189.5	189.5	189.5	189.5
80°	153.2	152.9	152.6	152.4	152.4	152.4	152.4	152.4
82.5°	117.9	117.3	116.8	116.4	116.1	115.9	115.7	115.4
85°	66.8	66.2	65.6	65.3	65.3	65.3	65.3	65.3
87.5°	26.3	26.2	26.1	26.2	26.1	26.2	26.3	26.2
90°	14.3	14.8	15.4	16.5	16.0	16.5	17.1	16.5
92.5°	48.0	38.1	33.7	30.7	29.7	27.9	28.5	27.5
95°	205.3	139.2	108.9	88.4	77.6	72.4	68.4	66.2
97.5°	511.9	410.0	336.4	268.2	226.1	200.4	185.0	180.1
100°	672.5	626.3	559.5	478.5	420.9	379.3	357.1	357.6
102.5°	725.9	724.4	685.5	634.1	589.3	556.3	537.7	524.6
105°	741.5	798.5	809.4	794.5	768.3	746.6	728.4	725.5
107.5°	696.5	789.2	839.1	859.4	859.9	852.6	846.4	841.2
110°	653.6	758.6	830.5	870.4	886.4	890.9	889.8	888.6





TEST NUMBER: P332017

CATALOG NUMBER: S123DIP-S1000D585U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	611.2	718.4	799.0	850.3	879.5	893.7	898.0	898.2
115°	555.0	654.2	738.1	800.2	843.0	868.1	879.5	882.4
117.5°	514.2	599.9	675.2	738.3	782.9	811.6	828.1	831.9
120°	492.8	569.8	638.2	695.9	740.9	772.9	786.5	790.0
122.5°	475.9	545.6	609.0	662.5	702.6	731.3	746.4	750.7
125°	453.4	515.6	570.4	616.0	652.5	677.6	691.9	695.9
127.5°	433.8	489.3	538.7	580.2	612.7	634.1	647.0	650.7
130°	421.5	472.8	519.0	557.8	588.1	608.6	620.6	625.1
132.5°	410.1	457.3	500.3	537.3	565.7	586.2	596.8	600.0
135°	394.7	435.2	472.3	504.8	532.7	549.8	560.1	564.1
137.5°	380.7	413.9	445.8	474.0	497.5	514.8	523.5	526.1
140°	372.5	401.5	428.9	453.4	475.1	491.1	500.2	499.6
142.5°	364.7	389.7	413.4	434.7	453.2	467.4	475.6	475.0
145°	355.3	374.2	392.4	409.0	423.2	435.2	439.8	440.9
147.5°	347.7	362.6	377.4	389.1	399.9	408.0	412.4	412.8
150°	342.2	355.3	367.3	378.2	386.7	393.0	396.4	396.4
152.5°	337.2	348.5	359.1	368.1	374.8	380.7	382.7	382.7
155°	329.7	338.8	347.4	354.2	359.3	363.9	365.0	365.6
157.5°	321.7	329.3	336.0	341.3	345.8	349.2	350.1	350.0
160°	317.1	323.4	329.1	333.1	337.1	340.5	340.5	339.9
162.5°	311.7	317.0	322.3	325.8	328.4	331.4	331.4	330.8
165°	304.6	308.0	312.0	314.8	317.1	319.4	318.8	318.8
167.5°	298.4	301.0	303.3	305.4	306.4	308.0	307.4	307.4
170°	294.3	296.0	298.3	299.4	300.0	301.2	300.6	300.6
172.5°	290.7	291.9	293.7	294.4	294.5	295.7	294.7	294.2
175°	285.8	286.3	287.5	287.5	287.5	288.0	287.5	286.9
177.5°	282.7	283.1	283.6	283.6	283.1	283.6	282.7	282.7
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8

(END OF REPORT)