

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: P332015-840

Luminaire Tested: **S123DIP-S1000D585U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332015-840  
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-S1000D585U840-4F0-1E-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: 6525.8 lumens  
Efficiency: N/A  
Efficacy: 133.7 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

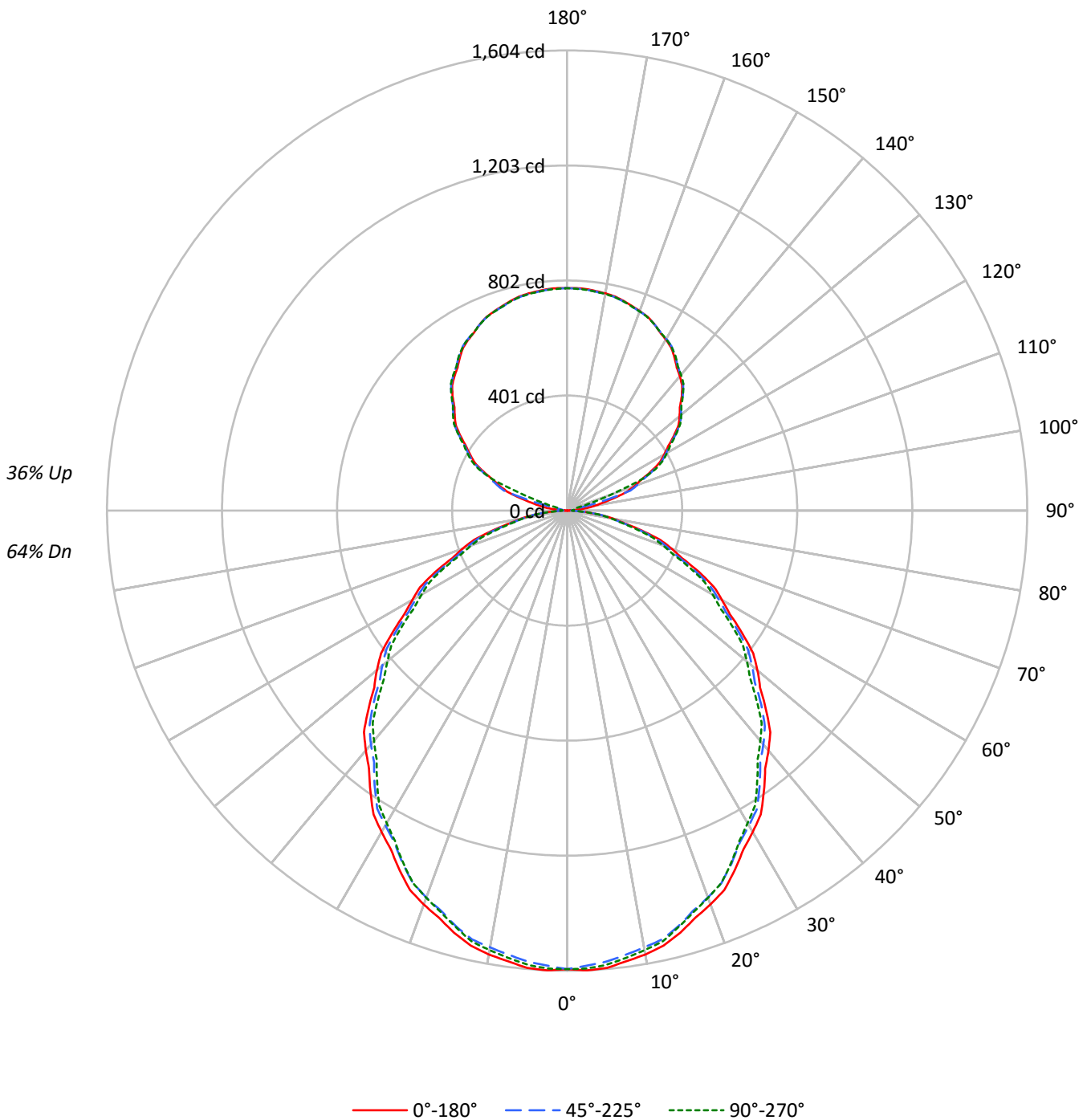
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	17206	17206	17206
5°	17286	17049	17168
10°	17171	16901	17006
15°	16971	16710	16741
20°	16736	16436	16452
25°	16422	16112	16079
30°	16075	15751	15631
35°	15713	15369	15172
40°	15336	14948	14716
45°	14918	14562	14206
50°	14502	14086	13695
55°	13955	13594	13181
60°	13403	13020	12605
65°	12918	12394	12006
70°	12198	11679	11160
75°	11146	10746	10289
80°	10054	9627	9540
85°	8830	8497	8139



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.6	2.3
10°-20°	425.2	6.5
20°-30°	628.0	9.6
30°-40°	733.6	11.2
40°-50°	737.6	11.3
50°-60°	647.9	9.9
60°-70°	482.7	7.4
70°-80°	275.0	4.2
80°-90°	81.1	1.2
90°-100°	28.2	0.4
100°-110°	134.3	2.1
110°-120°	322.7	4.9
120°-130°	410.9	6.3
130°-140°	439.0	6.7
140°-150°	410.5	6.3
150°-160°	331.2	5.1
160°-170°	213.7	3.3
170°-180°	73.7	1.1
0°-30°	1203.8	18.4
0°-40°	1937.4	29.7
0°-60°	3322.8	50.9
0°-90°	4161.6	63.8
90°-120°	485.2	7.4
90°-150°	1745.7	26.8
90°-180°	2364.0	36.2
0°-180°	6525.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1598	1598	1598	1598	1598	
5°	1600	1593	1578	1591	1589	152
15°	1523	1517	1500	1509	1502	429
25°	1383	1374	1357	1358	1354	637
35°	1196	1187	1170	1162	1155	748
45°	980	974	957	941	933	756
55°	744	741	724	710	702	666
65°	507	500	487	476	471	500
75°	268	263	258	252	247	287
85°	72	69	69	66	66	78
90°	1	6	14	16	17	6
95°	35	13	18	22	22	43
105°	172	175	126	30	25	182
115°	322	326	331	336	339	318
125°	454	458	461	462	463	405
135°	565	568	571	572	571	435
145°	652	656	657	658	658	408
155°	718	717	718	720	717	331
165°	757	756	755	759	756	214
175°	775	773	773	777	772	74
180°	775	775	775	775	775	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5
2.5°	1604.0	1603.1	1602.0	1601.0	1600.1	1598.2	1595.6	1592.9	1590.2	1587.5	1589.9
5°	1599.8	1598.3	1596.8	1595.3	1593.8	1591.3	1588.0	1584.6	1581.2	1577.9	1580.9
7.5°	1584.2	1582.7	1581.1	1579.6	1578.1	1575.6	1572.2	1568.6	1565.2	1561.7	1564.4
10°	1571.0	1569.5	1567.9	1566.4	1564.9	1562.2	1558.2	1554.2	1550.2	1546.3	1549.0
12.5°	1553.4	1552.2	1550.8	1549.5	1548.3	1545.8	1542.1	1538.3	1534.6	1530.9	1532.9
15°	1522.9	1521.7	1520.5	1519.2	1518.0	1515.4	1511.5	1507.5	1503.5	1499.5	1502.0
17.5°	1487.4	1485.8	1484.3	1482.7	1481.1	1478.3	1474.3	1470.4	1466.4	1462.4	1464.1
20°	1461.1	1459.3	1457.4	1455.5	1453.7	1450.8	1446.8	1442.9	1439.0	1434.9	1436.1
22.5°	1431.4	1429.6	1427.7	1425.8	1424.0	1421.2	1417.1	1413.2	1409.3	1405.2	1406.2
25°	1382.7	1380.9	1379.1	1377.3	1375.3	1372.5	1368.5	1364.5	1360.6	1356.6	1356.9
27.5°	1330.8	1329.0	1327.2	1325.4	1323.6	1320.6	1316.4	1312.1	1307.8	1303.5	1303.7
30°	1293.3	1291.8	1290.3	1288.8	1287.3	1284.3	1280.1	1275.8	1271.5	1267.3	1267.3
32.5°	1256.0	1253.9	1251.9	1249.9	1247.9	1245.3	1241.9	1238.7	1235.4	1232.0	1230.3
35°	1195.8	1194.0	1192.1	1190.3	1188.4	1185.6	1181.5	1177.6	1173.7	1169.6	1167.8
37.5°	1134.2	1131.9	1129.5	1127.2	1124.9	1121.8	1117.7	1113.7	1109.6	1105.6	1103.4
40°	1091.4	1089.4	1087.6	1085.8	1084.0	1081.0	1076.6	1072.4	1068.1	1063.8	1061.4
42.5°	1048.4	1046.3	1044.3	1042.2	1040.2	1036.9	1032.7	1028.4	1024.1	1019.9	1017.4
45°	980.0	978.8	977.5	976.3	975.1	972.5	968.6	964.5	960.6	956.6	953.0
47.5°	912.1	910.3	908.6	906.8	905.0	902.2	898.6	894.8	891.1	887.4	883.7
50°	866.0	864.3	862.8	861.3	859.8	857.1	853.0	849.1	845.2	841.2	837.8
52.5°	817.5	816.5	815.5	814.5	813.3	810.7	806.6	802.3	798.1	793.9	791.0
55°	743.6	743.3	743.0	742.7	742.4	740.2	736.3	732.3	728.3	724.4	720.9
57.5°	673.2	672.2	671.2	670.1	669.0	666.9	663.8	660.6	657.4	654.3	651.3
60°	622.6	622.3	622.0	621.7	621.4	619.5	615.7	612.1	608.4	604.8	602.0
62.5°	577.5	576.7	575.9	575.1	574.4	572.2	568.5	564.8	561.2	557.4	554.7
65°	507.2	505.6	504.1	502.6	501.1	498.8	495.7	492.7	489.6	486.6	484.1
67.5°	432.7	431.3	430.0	428.7	427.3	425.5	423.1	420.8	418.5	416.2	414.0
70°	387.6	385.8	384.0	382.1	380.3	378.4	376.6	374.8	372.9	371.1	369.0
72.5°	340.3	339.0	337.6	336.3	335.0	333.3	331.1	329.1	327.0	324.9	323.1
75°	268.0	266.8	265.6	264.4	263.2	262.1	261.2	260.2	259.3	258.4	256.9
77.5°	204.0	203.3	202.6	202.0	201.3	200.4	199.3	198.2	197.1	196.0	195.0
80°	162.2	161.3	160.4	159.5	158.5	157.7	157.1	156.5	155.9	155.3	155.0
82.5°	121.5	121.3	121.2	121.0	120.8	120.6	120.5	120.4	120.3	120.2	119.6
85°	71.5	70.9	70.3	69.7	69.1	68.8	68.8	68.8	68.8	68.8	68.1
87.5°	28.7	28.3	27.8	27.3	26.8	26.6	26.7	26.8	26.9	27.0	26.9
90°	0.6	1.8	3.1	4.4	5.7	7.2	8.8	10.5	12.1	13.8	14.3
92.5°	10.7	10.4	10.0	9.6	9.3	9.7	11.0	12.2	13.5	14.7	15.6
95°	35.1	29.9	24.6	19.4	14.1	12.2	13.6	15.0	16.5	17.9	18.8
97.5°	70.6	68.3	65.9	63.5	61.2	55.4	46.2	37.0	27.8	18.6	19.6
100°	97.4	99.9	102.5	105.0	107.6	98.9	78.9	59.0	39.0	19.0	20.0
102.5°	127.7	129.6	131.5	133.3	135.1	125.1	103.3	81.5	59.7	37.9	34.7
105°	171.7	173.1	174.5	175.8	177.2	172.2	160.7	149.2	137.6	126.1	103.5
107.5°	217.9	219.0	220.3	221.4	222.5	223.9	225.7	227.5	229.3	231.2	214.6
110°	248.8	249.8	250.9	251.9	252.9	254.2	255.5	256.9	258.3	259.7	255.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	278.3	279.2	280.1	281.0	282.0	283.2	284.6	286.0	287.4	288.8	288.9
115°	321.9	322.8	323.5	324.3	325.1	326.0	327.2	328.3	329.4	330.6	331.9
117.5°	364.3	365.2	366.2	367.1	368.0	368.8	369.4	370.0	370.6	371.1	372.2
120°	390.5	391.6	392.8	393.9	395.2	395.9	396.3	396.7	397.1	397.4	398.5
122.5°	417.3	418.2	419.1	420.1	421.0	421.7	422.2	422.7	423.2	423.7	424.4
125°	453.8	454.9	456.0	457.0	458.0	458.8	459.3	459.8	460.3	460.8	461.0
127.5°	489.4	490.4	491.4	492.4	493.4	494.2	494.8	495.5	496.1	496.8	497.2
130°	511.5	512.5	513.5	514.5	515.5	516.3	516.8	517.4	517.9	518.4	518.9
132.5°	532.7	533.7	534.7	535.7	536.7	537.5	537.9	538.3	538.7	539.2	539.7
135°	565.0	565.8	566.5	567.3	568.2	568.8	569.3	569.8	570.3	570.8	571.2
137.5°	592.7	593.7	594.6	595.6	596.5	597.2	597.4	597.7	598.0	598.3	599.0
140°	611.1	611.9	612.7	613.4	614.2	614.8	615.1	615.5	615.9	616.3	616.8
142.5°	628.1	628.9	629.8	630.5	631.3	631.8	632.2	632.6	633.0	633.4	633.8
145°	652.0	652.9	653.8	654.7	655.6	656.2	656.4	656.7	656.9	657.2	657.4
147.5°	674.5	675.1	675.7	676.2	676.8	677.2	677.5	677.7	678.0	678.3	678.5
150°	688.3	688.7	689.0	689.4	689.8	690.1	690.4	690.6	690.9	691.2	691.5
152.5°	700.7	700.9	701.0	701.3	701.5	701.7	701.8	702.0	702.1	702.3	702.7
155°	718.2	718.0	717.7	717.5	717.2	717.2	717.3	717.4	717.5	717.7	718.3
157.5°	731.8	731.8	731.7	731.7	731.7	731.6	731.5	731.4	731.2	731.1	732.0
160°	740.1	740.0	739.9	739.7	739.6	739.5	739.3	739.2	739.1	739.0	739.7
162.5°	748.0	747.6	747.3	747.0	746.6	746.4	746.3	746.2	746.0	745.9	746.8
165°	757.4	757.0	756.7	756.3	755.9	755.6	755.5	755.4	755.3	755.1	756.2
167.5°	764.8	764.3	763.8	763.3	762.8	762.4	762.4	762.4	762.4	762.4	763.6
170°	768.9	768.4	767.9	767.4	766.9	766.6	766.6	766.6	766.6	766.6	767.7
172.5°	771.7	771.1	770.4	769.8	769.2	769.0	769.1	769.2	769.3	769.4	770.4
175°	775.3	774.7	774.0	773.4	772.7	772.4	772.5	772.7	772.8	773.0	773.9
177.5°	776.2	775.7	775.2	774.7	774.2	774.0	774.1	774.2	774.3	774.4	775.2
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5
2.5°	1592.4	1594.9	1597.3	1598.4	1598.1	1597.9	1597.6	1597.4
5°	1584.0	1587.0	1590.1	1591.3	1590.7	1590.1	1589.5	1588.9
7.5°	1567.2	1569.9	1572.7	1573.9	1573.5	1573.2	1572.8	1572.4
10°	1551.8	1554.5	1557.3	1558.3	1557.7	1557.1	1556.5	1555.9
12.5°	1534.9	1536.9	1538.9	1539.7	1539.4	1539.0	1538.6	1538.3
15°	1504.4	1506.8	1509.3	1509.6	1507.8	1505.9	1504.1	1502.3
17.5°	1465.8	1467.5	1469.3	1469.8	1469.2	1468.4	1467.7	1467.1
20°	1437.3	1438.7	1439.9	1440.0	1439.1	1438.1	1437.2	1436.3
22.5°	1407.2	1408.2	1409.2	1409.1	1408.0	1406.7	1405.6	1404.4
25°	1357.2	1357.6	1357.9	1357.6	1356.6	1355.6	1354.7	1353.8
27.5°	1304.0	1304.2	1304.5	1304.0	1302.9	1301.7	1300.6	1299.4
30°	1267.3	1267.3	1267.3	1266.2	1264.0	1261.9	1259.8	1257.6
32.5°	1228.6	1227.0	1225.3	1223.8	1222.6	1221.4	1220.3	1219.1
35°	1166.0	1164.2	1162.4	1160.6	1159.1	1157.6	1156.1	1154.6
37.5°	1101.3	1099.0	1096.8	1095.2	1094.3	1093.3	1092.3	1091.4
40°	1058.9	1056.5	1054.1	1052.2	1051.0	1049.8	1048.5	1047.3
42.5°	1014.9	1012.5	1010.1	1008.2	1007.0	1005.8	1004.6	1003.4
45°	949.3	945.6	942.0	939.4	937.9	936.3	934.8	933.2
47.5°	880.1	876.6	872.9	870.5	869.1	867.8	866.5	865.1
50°	834.5	831.1	827.7	825.2	823.3	821.4	819.6	817.8
52.5°	788.1	785.3	782.4	780.0	778.2	776.4	774.6	772.7
55°	717.6	714.3	710.9	708.4	706.9	705.4	703.9	702.4
57.5°	648.2	645.3	642.3	639.9	638.1	636.3	634.6	632.8
60°	599.3	596.5	593.8	591.7	590.1	588.5	587.0	585.5
62.5°	552.0	549.3	546.4	544.6	543.5	542.5	541.5	540.5
65°	481.7	479.2	476.8	475.1	474.2	473.3	472.3	471.4
67.5°	411.9	409.8	407.7	406.0	404.7	403.3	402.0	400.8
70°	366.8	364.7	362.5	360.7	359.2	357.7	356.2	354.6
72.5°	321.1	319.2	317.3	316.0	315.2	314.4	313.7	312.9
75°	255.4	253.8	252.3	251.1	250.1	249.2	248.3	247.4
77.5°	193.9	192.9	191.9	191.4	191.4	191.4	191.4	191.4
80°	154.7	154.4	154.1	153.9	153.9	153.9	153.9	153.9
82.5°	119.1	118.5	118.0	117.5	117.2	117.0	116.8	116.5
85°	67.5	66.9	66.2	65.9	65.9	65.9	65.9	65.9
87.5°	26.7	26.6	26.4	26.4	26.4	26.5	26.5	26.6
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	16.4	17.2	18.0	18.5	18.7	18.8	19.0	19.1
95°	19.7	20.5	21.4	21.9	21.9	21.9	21.9	21.9
97.5°	20.6	21.6	22.6	23.2	23.3	23.4	23.6	23.7
100°	21.0	22.1	23.1	23.6	23.8	23.9	24.0	24.2
102.5°	31.5	28.4	25.2	23.7	23.9	24.2	24.4	24.6
105°	80.8	58.2	35.5	24.3	24.5	24.8	25.0	25.3
107.5°	197.9	181.4	164.7	147.9	130.8	113.7	96.6	79.6
110°	251.4	247.1	242.9	231.6	213.3	195.0	176.7	158.3





TEST NUMBER: P332015-840

CATALOG NUMBER: S123DIP-S1000D585U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.9	289.0	289.1	287.2	283.4	279.4	275.6	271.8
115°	333.2	334.5	335.8	336.6	337.1	337.7	338.2	338.7
117.5°	373.2	374.3	375.3	375.9	376.0	376.1	376.2	376.3
120°	399.5	400.5	401.5	402.0	402.0	402.0	402.0	402.0
122.5°	425.2	425.9	426.6	427.0	427.1	427.2	427.3	427.4
125°	461.3	461.5	461.8	462.1	462.3	462.6	462.8	463.1
127.5°	497.6	498.0	498.4	498.5	498.2	498.0	497.7	497.5
130°	519.4	519.9	520.4	520.6	520.3	520.1	519.8	519.6
132.5°	540.2	540.7	541.2	541.3	540.9	540.5	540.2	539.8
135°	571.6	572.0	572.3	572.3	572.0	571.6	571.2	570.8
137.5°	599.6	600.2	600.8	601.0	600.7	600.5	600.2	600.0
140°	617.3	617.8	618.3	618.4	618.2	617.9	617.7	617.4
142.5°	634.2	634.6	635.0	635.0	634.7	634.3	633.9	633.6
145°	657.7	657.9	658.2	658.3	658.3	658.3	658.3	658.3
147.5°	678.8	679.0	679.3	679.1	678.5	677.9	677.4	676.8
150°	691.7	692.0	692.2	692.2	691.8	691.4	690.9	690.6
152.5°	703.2	703.6	704.1	704.0	703.5	702.9	702.3	701.7
155°	718.9	719.6	720.2	720.1	719.4	718.6	717.9	717.1
157.5°	732.7	733.5	734.3	734.1	733.1	732.2	731.1	730.1
160°	740.5	741.2	742.0	741.9	741.1	740.2	739.3	738.4
162.5°	747.6	748.5	749.4	749.4	748.6	747.8	747.0	746.3
165°	757.2	758.2	759.2	759.3	758.4	757.5	756.6	755.7
167.5°	764.6	765.6	766.6	766.6	765.6	764.6	763.6	762.4
170°	768.7	769.7	770.7	770.7	769.7	768.7	767.7	766.6
172.5°	771.4	772.4	773.5	773.5	772.3	771.2	770.0	768.9
175°	774.8	775.7	776.6	776.5	775.5	774.5	773.5	772.3
177.5°	776.0	776.8	777.6	777.5	776.5	775.5	774.5	773.5
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3

(END OF REPORT)