

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: P332035-840

Luminaire Tested: **S123DIP-S1000D1025U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332035-840  
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-S1000D1025U840-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7909.8 lumens  
Efficiency: N/A  
Efficacy: 130.7 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: General Diffuse

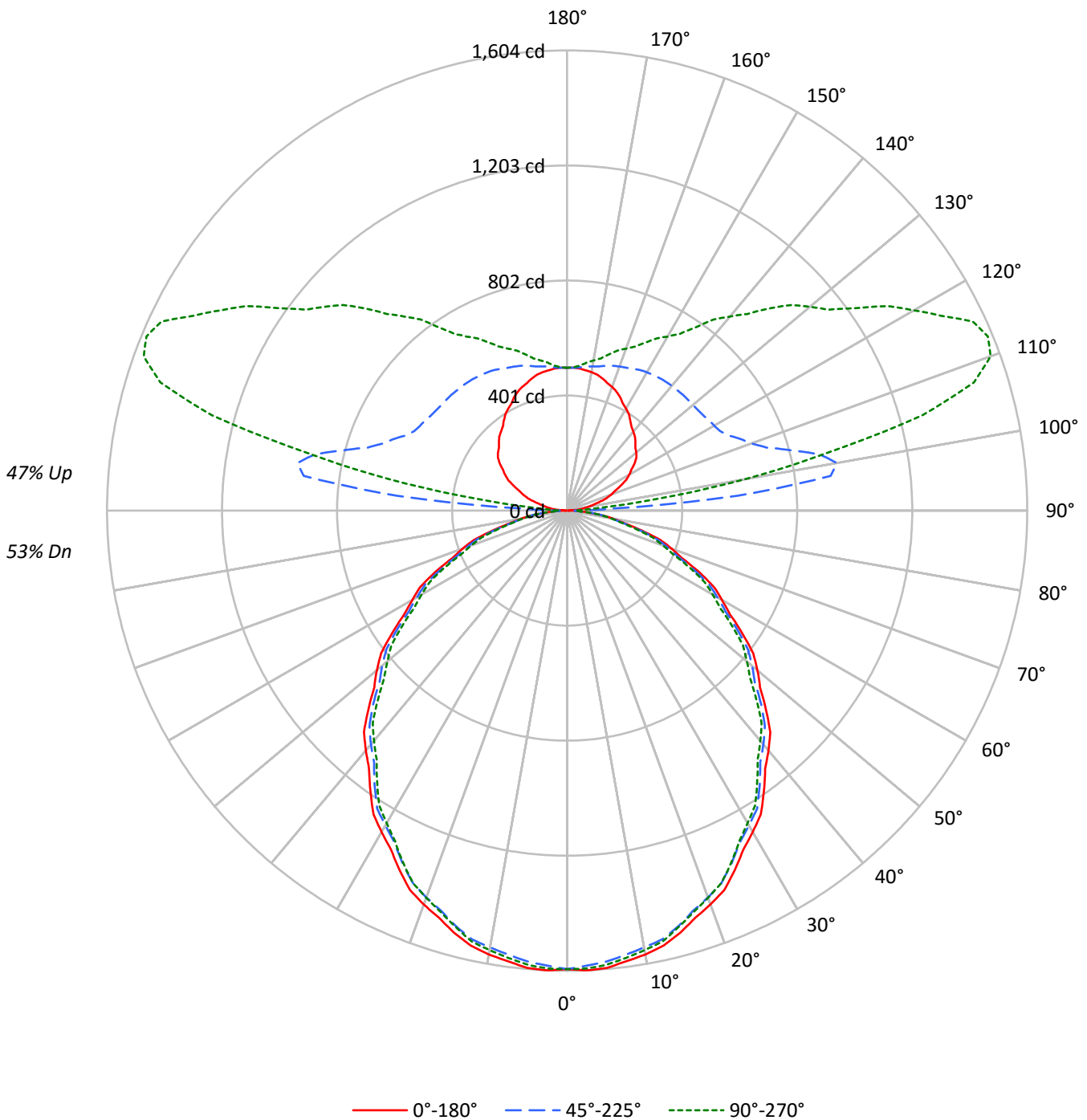
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	98	94	90	86	91	87	84	81	74	72	70	62	61	59	52	50	49	44
2	89	82	76	71	83	76	71	66	65	61	58	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	38	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	69	57	49	43	63	53	46	40	46	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16
9	50	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

**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	1.9
10°-20°	425.2	5.4
20°-30°	628.0	7.9
30°-40°	733.6	9.3
40°-50°	737.6	9.3
50°-60°	647.9	8.2
60°-70°	482.7	6.1
70°-80°	275.0	3.5
80°-90°	82.8	1.0
90°-100°	277.1	3.5
100°-110°	784.7	9.9
110°-120°	771.9	9.8
120°-130°	615.7	7.8
130°-140°	485.5	6.1
140°-150°	362.3	4.6
150°-160°	252.5	3.2
160°-170°	148.4	1.9
170°-180°	48.3	0.6
0°-30°	1203.8	15.2
0°-40°	1937.4	24.5
0°-60°	3322.8	42.0
0°-90°	4163.3	52.6
90°-120°	1833.8	23.2
90°-150°	3297.3	41.7
90°-180°	3746.0	47.4
0°-180°	7909.8	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°	2	12	25	28	29	6
95°	34	111	598	174	117	37
105°	117	173	810	1417	1282	124
115°	207	258	620	1359	1559	205
125°	287	339	579	1048	1230	255
135°	337	402	571	863	997	260
145°	384	440	564	708	779	241
155°	436	471	545	620	646	201
165°	477	490	522	554	564	134
175°	497	498	501	508	507	47
180°	498	498	498	498	498	



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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°	29.0	28.7	28.4	28.2	27.9	27.8	28.2	28.5	28.9	29.2	28.8
90°	2.0	4.0	6.1	9.1	11.1	13.1	16.2	19.2	22.2	25.2	24.2
92.5°	12.5	18.6	27.1	34.8	43.3	58.3	84.6	128.1	170.6	155.0	116.9
95°	34.2	37.3	48.4	65.5	91.7	131.1	216.7	366.9	532.2	597.7	484.8
97.5°	58.5	59.5	68.2	83.0	108.9	151.4	233.3	402.6	678.2	926.3	991.1
100°	74.6	75.6	82.7	96.7	121.0	160.3	230.9	380.0	645.1	954.6	1153.2
102.5°	91.5	93.3	99.6	112.9	134.7	170.8	234.1	360.6	596.7	902.2	1161.2
105°	116.9	120.0	126.0	138.1	157.2	188.5	243.0	346.8	537.2	810.4	1099.7
107.5°	143.9	146.9	152.8	164.7	182.7	211.7	259.4	345.8	499.4	729.4	992.1
110°	163.3	166.3	171.4	182.5	199.5	227.8	273.2	349.8	484.8	683.5	924.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.1	184.1	189.1	200.2	217.3	244.8	286.9	357.9	476.8	652.8	865.5
115°	206.6	210.7	216.7	226.8	244.0	271.1	309.4	370.9	473.7	620.0	794.4
117.5°	232.3	236.9	242.0	251.2	270.3	295.6	333.5	388.3	475.5	600.6	751.3
120°	249.9	253.0	258.0	268.1	287.3	312.5	348.8	401.2	478.8	591.7	728.8
122.5°	265.3	268.3	273.4	284.3	302.7	329.4	364.9	413.3	484.4	586.0	710.2
125°	287.3	289.3	295.4	306.4	325.6	352.8	388.1	432.4	492.9	578.7	686.5
127.5°	304.1	307.0	314.5	325.8	347.0	374.2	408.3	448.2	502.6	575.0	665.5
130°	314.5	317.5	326.6	338.7	359.8	387.1	420.3	458.7	509.1	572.6	654.2
132.5°	322.6	326.4	336.3	350.8	371.9	398.4	430.8	468.4	513.9	571.8	643.7
135°	336.7	340.7	351.8	366.9	388.1	415.3	446.6	480.8	521.2	570.6	630.1
137.5°	350.0	354.3	365.1	381.2	402.2	427.4	457.5	490.1	525.9	568.4	618.1
140°	358.9	363.9	374.0	390.1	410.3	435.5	464.7	494.9	529.2	567.5	610.9
142.5°	368.5	372.7	383.6	398.2	418.3	441.9	470.4	499.8	531.6	565.9	604.4
145°	384.1	387.1	396.2	411.3	428.4	451.6	477.8	505.0	533.2	563.5	595.7
147.5°	399.8	401.6	410.5	423.5	440.1	459.9	483.8	508.3	533.2	559.7	587.2
150°	410.3	411.3	419.3	432.4	446.6	464.7	487.9	509.1	533.2	556.4	581.6
152.5°	420.7	420.9	429.0	440.5	453.0	470.4	490.3	510.7	530.8	552.4	575.2
155°	436.5	436.5	442.5	452.6	463.7	477.8	494.9	511.1	528.2	545.3	565.5
157.5°	449.0	449.8	454.6	463.5	472.9	483.8	497.6	512.1	524.8	539.1	554.6
160°	458.7	458.7	462.7	470.7	477.8	487.9	500.0	512.1	523.2	534.2	547.3
162.5°	466.0	466.0	469.2	475.5	481.8	490.3	500.8	511.3	520.0	529.4	540.1
165°	476.8	475.7	477.8	482.8	486.9	493.9	502.0	509.1	515.1	522.2	530.2
167.5°	485.0	483.8	484.8	488.7	491.5	495.9	501.8	507.5	510.3	514.9	520.8
170°	489.9	487.9	488.9	491.9	493.9	495.9	501.0	505.0	507.1	510.1	515.1
172.5°	493.1	491.9	492.1	494.3	495.5	496.8	501.0	504.2	504.6	506.0	509.5
175°	497.0	495.9	494.9	497.0	497.0	498.0	500.0	502.0	501.0	501.0	503.0
177.5°	498.8	498.0	497.2	498.0	498.0	498.0	498.8	500.4	498.8	498.0	498.8
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0



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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°	28.8	28.7	28.7	29.0	28.8	29.0	29.2	29.0
90°	25.2	26.3	27.3	29.2	28.2	29.2	30.2	29.2
92.5°	84.8	67.4	59.5	54.2	52.4	49.4	50.4	48.6
95°	362.8	246.0	192.6	156.2	137.1	128.1	121.0	116.9
97.5°	904.6	724.6	594.5	473.9	399.6	354.3	327.0	318.3
100°	1188.5	1106.8	988.9	845.8	744.0	670.3	631.1	632.1
102.5°	1282.8	1280.2	1211.4	1120.7	1041.5	983.2	950.4	927.2
105°	1310.4	1411.3	1430.4	1404.2	1357.8	1319.5	1287.3	1282.2
107.5°	1231.0	1394.7	1483.0	1518.9	1519.7	1506.8	1495.9	1486.6
110°	1155.2	1340.7	1467.6	1538.2	1566.5	1574.6	1572.6	1570.5





TEST NUMBER: P332035-840

CATALOG NUMBER: S123DIP-S1000D1025U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1080.2	1269.7	1412.0	1502.8	1554.4	1579.3	1587.0	1587.4
115°	980.8	1156.2	1304.3	1414.2	1489.9	1534.2	1554.4	1559.4
117.5°	908.9	1060.3	1193.3	1304.7	1383.6	1434.4	1463.5	1470.3
120°	870.9	1007.0	1128.0	1229.8	1309.4	1365.8	1390.1	1396.1
122.5°	841.1	964.3	1076.4	1170.9	1241.7	1292.5	1319.1	1326.8
125°	801.4	911.3	1008.0	1088.6	1153.2	1197.5	1222.7	1229.8
127.5°	766.7	864.6	952.0	1025.3	1082.8	1120.7	1143.5	1149.9
130°	745.0	835.7	917.3	985.8	1039.3	1075.6	1096.7	1104.8
132.5°	724.8	808.2	884.2	949.6	999.8	1036.0	1054.8	1060.5
135°	697.5	769.1	834.7	892.1	941.5	971.7	989.9	996.9
137.5°	672.8	731.4	787.9	837.7	879.2	909.9	925.1	929.8
140°	658.2	709.6	758.0	801.4	839.7	867.9	884.0	883.0
142.5°	644.5	688.7	730.6	768.3	801.0	826.0	840.5	839.5
145°	628.0	661.3	693.5	722.8	747.9	769.1	777.2	779.2
147.5°	614.5	640.9	666.9	687.7	706.8	721.1	728.8	729.6
150°	604.8	628.0	649.1	668.3	683.5	694.5	700.5	700.5
152.5°	595.9	615.9	634.7	650.6	662.5	672.8	676.4	676.4
155°	582.6	598.7	613.9	626.0	635.1	643.1	645.1	646.1
157.5°	568.6	582.0	593.7	603.2	611.1	617.1	618.7	618.5
160°	560.5	571.6	581.6	588.7	595.7	601.8	601.8	600.8
162.5°	550.8	560.3	569.6	575.8	580.5	585.6	585.6	584.6
165°	538.3	544.3	551.4	556.4	560.5	564.5	563.5	563.5
167.5°	527.4	532.0	536.0	539.7	541.5	544.3	543.3	543.3
170°	520.2	523.2	527.1	529.2	530.2	532.2	531.2	531.2
172.5°	513.7	515.9	519.2	520.4	520.6	522.6	520.8	520.0
175°	505.0	506.0	508.1	508.1	508.1	509.1	508.1	507.1
177.5°	499.6	500.4	501.2	501.2	500.4	501.2	499.6	499.6
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0

(END OF REPORT)