

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: P332052-830

Luminaire Tested: **S123DIP-S1165D365U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332052-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1165D365U830-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5659.7 lumens  
Efficiency: N/A  
Efficacy: 113.6 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

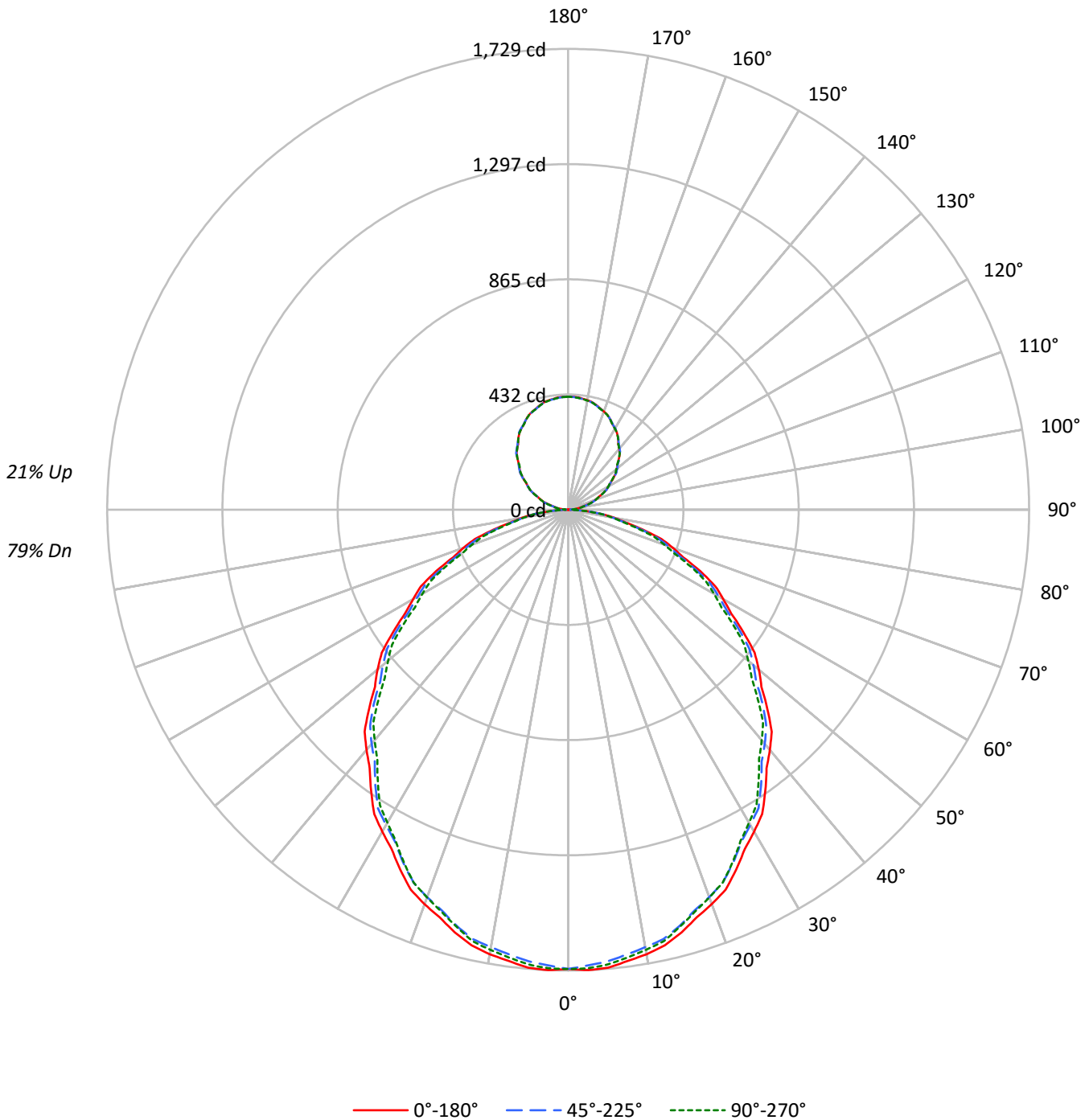
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	79
1	104	100	96	92	99	95	92	88	87	85	82	80	78	76	73	72	70	67
2	95	87	81	75	90	83	78	73	77	72	68	70	67	63	64	61	59	56
3	87	77	69	63	82	73	66	61	68	62	57	62	57	53	57	53	50	47
4	79	68	59	53	75	65	58	52	60	54	49	55	50	46	51	47	43	40
5	73	61	52	46	69	58	50	45	54	47	42	50	44	40	46	41	38	35
6	67	55	46	40	64	53	45	39	49	42	37	45	39	35	42	37	33	31
7	62	49	41	35	59	48	40	34	44	38	33	41	35	31	38	33	30	27
8	58	45	37	31	55	44	36	31	41	34	29	38	32	28	35	30	26	24
9	54	41	33	28	52	40	33	27	37	31	26	35	29	25	32	28	24	22
10	51	38	30	25	49	37	30	25	34	28	24	32	27	23	30	25	22	20

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

	0°	45°	90°
0°	18547	18547	18547
5°	18634	18377	18506
10°	18510	18218	18332
15°	18293	18013	18046
20°	18040	17718	17734
25°	17701	17368	17332
30°	17329	16978	16850
35°	16938	16567	16353
40°	16530	16114	15864
45°	16081	15696	15314
50°	15630	15183	14763
55°	15041	14653	14208
60°	14449	14034	13586
65°	13924	13359	12944
70°	13149	12589	12032
75°	12015	11582	11088
80°	10835	10377	10290
85°	9510	9152	8793



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.3	2.9
10°-20°	458.3	8.1
20°-30°	677.0	12.0
30°-40°	790.8	14.0
40°-50°	795.1	14.0
50°-60°	698.4	12.3
60°-70°	520.3	9.2
70°-80°	296.4	5.2
80°-90°	86.3	1.5
90°-100°	27.6	0.5
100°-110°	82.7	1.5
110°-120°	140.6	2.5
120°-130°	185.0	3.3
130°-140°	207.9	3.7
140°-150°	204.4	3.6
150°-160°	172.0	3.0
160°-170°	114.5	2.0
170°-180°	40.1	0.7
0°-30°	1297.6	22.9
0°-40°	2088.4	36.9
0°-60°	3581.8	63.3
0°-90°	4484.9	79.2
90°-120°	250.9	4.4
90°-150°	848.1	15.0
90°-180°	1175.0	20.8
0°-180°	5659.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1725	1717	1701	1715	1713	163
15°	1642	1635	1616	1627	1619	463
25°	1490	1481	1462	1464	1459	686
35°	1289	1280	1261	1252	1244	806
45°	1056	1050	1031	1014	1006	815
55°	802	799	781	765	757	718
65°	547	539	524	513	508	539
75°	289	283	278	271	267	309
85°	77	74	74	71	71	85
90°	0	4	8	9	10	5
95°	20	22	25	26	26	22
105°	75	76	79	79	79	80
115°	142	142	142	142	142	140
125°	207	208	208	206	205	185
135°	269	271	270	269	268	207
145°	326	327	328	327	326	204
155°	373	373	374	375	373	172
165°	407	406	406	408	405	115
175°	423	422	422	423	421	40
180°	424	424	424	424	424	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1729.0	1728.0	1726.9	1725.9	1724.8	1722.8	1720.0	1717.0	1714.1	1711.2	1713.8
5°	1724.6	1723.0	1721.3	1719.7	1718.0	1715.3	1711.8	1708.1	1704.5	1700.8	1704.1
7.5°	1707.7	1706.0	1704.4	1702.7	1701.1	1698.4	1694.6	1690.9	1687.2	1683.4	1686.3
10°	1693.5	1691.8	1690.2	1688.5	1686.9	1683.9	1679.6	1675.4	1671.0	1666.8	1669.7
12.5°	1674.5	1673.1	1671.7	1670.4	1669.0	1666.2	1662.3	1658.2	1654.2	1650.2	1652.4
15°	1641.6	1640.3	1639.0	1637.7	1636.3	1633.5	1629.3	1624.9	1620.7	1616.4	1619.0
17.5°	1603.4	1601.7	1600.0	1598.3	1596.5	1593.6	1589.2	1585.0	1580.6	1576.4	1578.3
20°	1574.9	1572.9	1570.9	1569.0	1567.1	1563.9	1559.6	1555.4	1551.0	1546.8	1548.1
22.5°	1542.9	1541.0	1539.0	1537.0	1535.0	1531.9	1527.6	1523.3	1519.1	1514.8	1515.8
25°	1490.4	1488.5	1486.5	1484.5	1482.6	1479.4	1475.2	1470.9	1466.6	1462.4	1462.6
27.5°	1434.5	1432.6	1430.7	1428.7	1426.8	1423.6	1419.0	1414.4	1409.8	1405.1	1405.4
30°	1394.2	1392.5	1390.9	1389.2	1387.6	1384.5	1379.9	1375.3	1370.6	1366.0	1366.0
32.5°	1353.9	1351.7	1349.5	1347.4	1345.2	1342.3	1338.8	1335.2	1331.6	1328.1	1326.3
35°	1289.0	1287.0	1285.1	1283.1	1281.1	1278.0	1273.7	1269.4	1265.1	1260.8	1258.9
37.5°	1222.6	1220.1	1217.6	1215.1	1212.6	1209.2	1204.9	1200.5	1196.2	1191.8	1189.4
40°	1176.4	1174.4	1172.4	1170.4	1168.5	1165.2	1160.6	1155.9	1151.3	1146.8	1144.2
42.5°	1130.1	1127.9	1125.7	1123.4	1121.2	1117.8	1113.1	1108.5	1103.9	1099.4	1096.7
45°	1056.4	1055.1	1053.8	1052.4	1051.1	1048.3	1044.1	1039.7	1035.5	1031.1	1027.3
47.5°	983.2	981.3	979.4	977.4	975.5	972.6	968.6	964.5	960.5	956.5	952.6
50°	933.4	931.8	930.1	928.5	926.8	923.9	919.5	915.3	911.0	906.7	903.1
52.5°	881.3	880.1	879.0	877.9	876.8	873.9	869.4	864.9	860.4	855.7	852.6
55°	801.5	801.3	800.9	800.6	800.2	798.0	793.6	789.4	785.0	780.8	777.2
57.5°	725.7	724.5	723.4	722.4	721.2	719.0	715.5	712.1	708.7	705.2	702.0
60°	671.2	670.8	670.5	670.1	669.9	667.7	663.7	659.8	655.8	651.9	648.9
62.5°	622.5	621.7	620.9	620.0	619.2	616.7	612.7	608.8	604.9	601.0	597.9
65°	546.7	545.1	543.4	541.8	540.1	537.6	534.3	531.0	527.7	524.5	521.9
67.5°	466.4	465.0	463.5	462.0	460.6	458.6	456.1	453.6	451.1	448.7	446.3
70°	417.8	415.8	413.9	411.9	409.9	407.9	406.0	404.0	402.0	400.0	397.8
72.5°	366.8	365.4	363.9	362.5	361.1	359.2	356.9	354.7	352.5	350.2	348.2
75°	288.9	287.6	286.3	284.9	283.6	282.5	281.5	280.5	279.6	278.5	276.9
77.5°	219.9	219.1	218.4	217.7	217.0	216.0	214.8	213.7	212.4	211.3	210.2
80°	174.8	173.8	172.9	171.8	170.9	170.0	169.4	168.7	168.1	167.4	167.1
82.5°	131.0	130.7	130.5	130.4	130.2	130.0	129.9	129.8	129.6	129.5	128.9
85°	77.0	76.3	75.7	75.0	74.4	74.1	74.1	74.1	74.1	74.1	73.4
87.5°	30.9	30.3	29.6	28.9	28.3	28.0	27.9	27.8	27.7	27.7	27.4
90°	0.4	1.0	1.8	2.5	3.3	4.1	5.1	6.0	7.1	8.0	8.3
92.5°	8.1	8.6	9.0	9.6	10.1	10.6	11.1	11.7	12.3	12.8	13.0
95°	19.7	20.2	20.6	21.2	21.7	22.2	22.9	23.5	24.0	24.7	25.0
97.5°	34.9	35.3	35.7	36.1	36.5	36.9	37.3	37.7	38.2	38.5	38.9
100°	45.3	45.7	46.2	46.7	47.0	47.5	47.9	48.3	48.6	48.9	49.2
102.5°	57.3	57.6	57.8	58.1	58.3	58.7	59.2	59.8	60.2	60.7	60.9
105°	74.9	75.1	75.2	75.4	75.5	76.0	76.6	77.3	77.9	78.6	78.6
107.5°	95.5	95.6	95.7	95.8	95.9	96.0	96.2	96.5	96.8	97.1	97.3
110°	108.3	108.4	108.6	108.7	108.9	109.0	109.1	109.3	109.4	109.6	109.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	121.6	121.7	121.8	121.9	122.0	122.0	122.1	122.1	122.1	122.2	122.4
115°	141.6	141.8	142.0	142.2	142.4	142.5	142.3	142.2	142.0	141.9	141.9
117.5°	161.6	161.8	162.0	162.1	162.3	162.2	162.0	161.8	161.6	161.5	161.5
120°	174.2	174.7	175.1	175.5	176.0	176.0	175.7	175.3	174.9	174.6	174.5
122.5°	187.3	187.6	187.9	188.2	188.6	188.6	188.4	188.2	188.0	187.8	187.7
125°	207.2	207.4	207.6	207.8	208.1	208.1	207.9	207.8	207.6	207.5	207.2
127.5°	225.6	226.0	226.5	227.0	227.4	227.6	227.4	227.2	227.2	227.0	226.6
130°	237.8	238.4	239.0	239.6	240.2	240.3	240.2	240.0	239.7	239.5	239.2
132.5°	250.1	250.7	251.3	251.8	252.4	252.7	252.5	252.3	252.1	252.0	251.7
135°	268.8	269.3	269.7	270.1	270.6	270.8	270.7	270.6	270.5	270.5	270.1
137.5°	286.2	286.5	286.8	287.2	287.6	287.9	288.0	288.2	288.4	288.6	288.3
140°	298.1	298.5	298.9	299.3	299.6	299.8	299.9	299.9	300.0	300.1	300.0
142.5°	309.1	309.4	309.8	310.2	310.5	310.8	310.9	311.0	311.1	311.3	311.2
145°	326.1	326.2	326.4	326.5	326.7	326.9	327.1	327.3	327.5	327.7	327.7
147.5°	341.0	341.3	341.6	341.9	342.0	342.3	342.5	342.7	342.9	343.2	343.2
150°	351.4	351.6	351.7	351.9	352.0	352.1	352.3	352.4	352.6	352.7	352.7
152.5°	360.0	360.1	360.3	360.5	360.8	360.9	361.0	361.1	361.2	361.3	361.4
155°	373.4	373.4	373.4	373.4	373.4	373.4	373.5	373.5	373.6	373.7	374.0
157.5°	384.8	384.7	384.7	384.6	384.5	384.5	384.6	384.6	384.7	384.7	385.0
160°	392.0	391.9	391.7	391.6	391.4	391.3	391.3	391.3	391.3	391.3	391.7
162.5°	398.4	398.2	398.0	397.8	397.6	397.6	397.6	397.7	397.8	397.8	398.1
165°	406.7	406.5	406.2	406.0	405.8	405.7	405.7	405.7	405.7	405.7	406.1
167.5°	413.3	413.0	412.7	412.4	412.1	412.0	412.1	412.1	412.2	412.3	412.6
170°	417.0	416.7	416.4	416.1	415.8	415.7	415.7	415.7	415.7	415.7	416.2
172.5°	420.0	419.6	419.3	419.1	418.8	418.6	418.6	418.6	418.6	418.6	419.1
175°	423.0	422.7	422.4	422.2	421.9	421.7	421.7	421.7	421.7	421.7	422.2
177.5°	424.2	424.0	423.8	423.6	423.3	423.2	423.2	423.2	423.2	423.2	423.6
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1716.5	1719.1	1721.7	1723.0	1722.7	1722.4	1722.1	1721.9
5°	1707.4	1710.7	1714.0	1715.3	1714.7	1714.0	1713.4	1712.7
7.5°	1689.3	1692.2	1695.3	1696.5	1696.1	1695.7	1695.4	1695.0
10°	1672.7	1675.7	1678.7	1679.8	1679.1	1678.5	1677.8	1677.2
12.5°	1654.5	1656.7	1658.9	1659.8	1659.3	1659.0	1658.6	1658.2
15°	1621.6	1624.3	1626.9	1627.3	1625.3	1623.3	1621.4	1619.4
17.5°	1580.1	1582.0	1583.8	1584.3	1583.7	1582.9	1582.2	1581.5
20°	1549.4	1550.8	1552.1	1552.2	1551.2	1550.2	1549.3	1548.2
22.5°	1516.9	1518.0	1519.0	1518.9	1517.7	1516.4	1515.1	1513.9
25°	1463.0	1463.3	1463.7	1463.3	1462.4	1461.3	1460.4	1459.3
27.5°	1405.7	1405.9	1406.2	1405.7	1404.5	1403.2	1401.9	1400.7
30°	1366.0	1366.0	1366.0	1364.9	1362.5	1360.3	1357.9	1355.7
32.5°	1324.4	1322.6	1320.7	1319.2	1318.0	1316.6	1315.4	1314.2
35°	1256.9	1254.9	1252.9	1251.1	1249.4	1247.8	1246.1	1244.5
37.5°	1187.0	1184.7	1182.3	1180.6	1179.5	1178.5	1177.4	1176.4
40°	1141.5	1138.9	1136.2	1134.3	1132.9	1131.6	1130.3	1129.0
42.5°	1094.1	1091.5	1088.8	1086.8	1085.5	1084.2	1082.9	1081.6
45°	1023.3	1019.4	1015.4	1012.6	1011.0	1009.3	1007.7	1006.0
47.5°	948.8	944.9	940.9	938.3	936.9	935.4	934.0	932.6
50°	899.5	895.9	892.2	889.5	887.5	885.5	883.5	881.6
52.5°	849.6	846.5	843.4	840.8	838.9	836.9	834.9	832.9
55°	773.5	770.0	766.3	763.6	762.0	760.3	758.7	757.1
57.5°	698.8	695.6	692.3	689.8	687.9	686.0	684.0	682.1
60°	646.0	643.0	640.1	637.7	636.1	634.4	632.8	631.1
62.5°	595.0	592.0	589.1	587.0	585.9	584.8	583.7	582.6
65°	519.2	516.6	514.0	512.2	511.1	510.2	509.2	508.2
67.5°	444.0	441.7	439.4	437.5	436.2	434.8	433.4	432.1
70°	395.4	393.1	390.8	388.8	387.2	385.5	383.9	382.3
72.5°	346.2	344.1	342.0	340.6	339.8	338.9	338.1	337.2
75°	275.2	273.6	271.9	270.6	269.7	268.6	267.7	266.6
77.5°	209.1	207.9	206.8	206.2	206.2	206.2	206.2	206.2
80°	166.7	166.5	166.1	166.0	166.0	166.0	166.0	166.0
82.5°	128.3	127.7	127.1	126.7	126.4	126.2	125.9	125.6
85°	72.8	72.1	71.4	71.2	71.2	71.2	71.2	71.2
87.5°	27.2	27.1	26.9	26.8	26.8	26.9	26.9	26.9
90°	8.6	8.9	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	13.3	13.5	13.8	13.9	13.8	13.7	13.6	13.5
95°	25.3	25.5	25.8	26.0	26.0	26.0	26.0	26.0
97.5°	39.2	39.6	40.0	40.1	40.1	40.1	40.0	40.0
100°	49.4	49.7	49.9	50.0	50.1	50.3	50.5	50.6
102.5°	61.2	61.4	61.5	61.6	61.6	61.6	61.5	61.5
105°	78.6	78.6	78.6	78.7	78.8	79.0	79.2	79.3
107.5°	97.6	97.7	98.0	98.1	98.0	97.9	97.8	97.7
110°	110.2	110.5	110.7	110.8	110.7	110.6	110.4	110.3





TEST NUMBER: P332052-830

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	122.8	123.2	123.6	123.7	123.7	123.7	123.6	123.6
115°	142.0	142.1	142.2	142.2	142.1	142.0	141.9	141.9
117.5°	161.5	161.5	161.5	161.3	161.1	160.9	160.7	160.5
120°	174.4	174.3	174.3	174.1	174.0	173.8	173.7	173.5
122.5°	187.5	187.3	187.1	186.9	186.7	186.4	186.2	186.1
125°	206.9	206.6	206.3	206.0	205.8	205.5	205.1	204.8
127.5°	226.1	225.7	225.3	224.9	224.6	224.2	223.9	223.6
130°	238.9	238.6	238.3	237.9	237.4	236.9	236.4	235.8
132.5°	251.3	250.9	250.6	250.2	249.8	249.4	249.0	248.6
135°	269.8	269.6	269.3	269.1	268.9	268.7	268.6	268.4
137.5°	288.0	287.8	287.4	287.1	286.8	286.5	286.3	286.0
140°	299.9	299.9	299.8	299.5	299.0	298.5	297.9	297.5
142.5°	311.1	311.0	311.0	310.8	310.4	310.0	309.5	309.2
145°	327.6	327.5	327.4	327.3	327.0	326.7	326.4	326.1
147.5°	343.2	343.2	343.2	342.9	342.5	342.0	341.6	341.1
150°	352.7	352.7	352.7	352.5	352.0	351.7	351.2	350.7
152.5°	361.5	361.7	361.7	361.6	361.2	360.8	360.4	360.1
155°	374.3	374.6	374.9	374.8	374.3	373.7	373.2	372.7
157.5°	385.3	385.7	386.0	385.9	385.5	385.1	384.7	384.3
160°	392.1	392.5	392.9	392.9	392.6	392.3	392.0	391.7
162.5°	398.5	398.9	399.3	399.2	398.7	398.2	397.8	397.3
165°	406.6	407.0	407.5	407.5	406.9	406.4	405.9	405.4
167.5°	413.1	413.6	414.1	414.1	413.6	413.1	412.6	412.3
170°	416.7	417.3	417.7	417.7	417.3	416.7	416.2	415.7
172.5°	419.5	420.0	420.5	420.5	419.9	419.4	418.9	418.4
175°	422.5	423.0	423.5	423.4	422.9	422.4	421.9	421.3
177.5°	424.0	424.2	424.6	424.6	424.2	423.8	423.4	422.9
180°	424.0	424.0	424.0	424.0	424.0	424.0	424.0	424.0

(END OF REPORT)