

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: P332069-840

Luminaire Tested: **S123DIP-S1165D805U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332069-840  
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-S1165D805U840-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8047.5 lumens  
Efficiency: N/A  
Efficacy: 132.6 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: General Diffuse

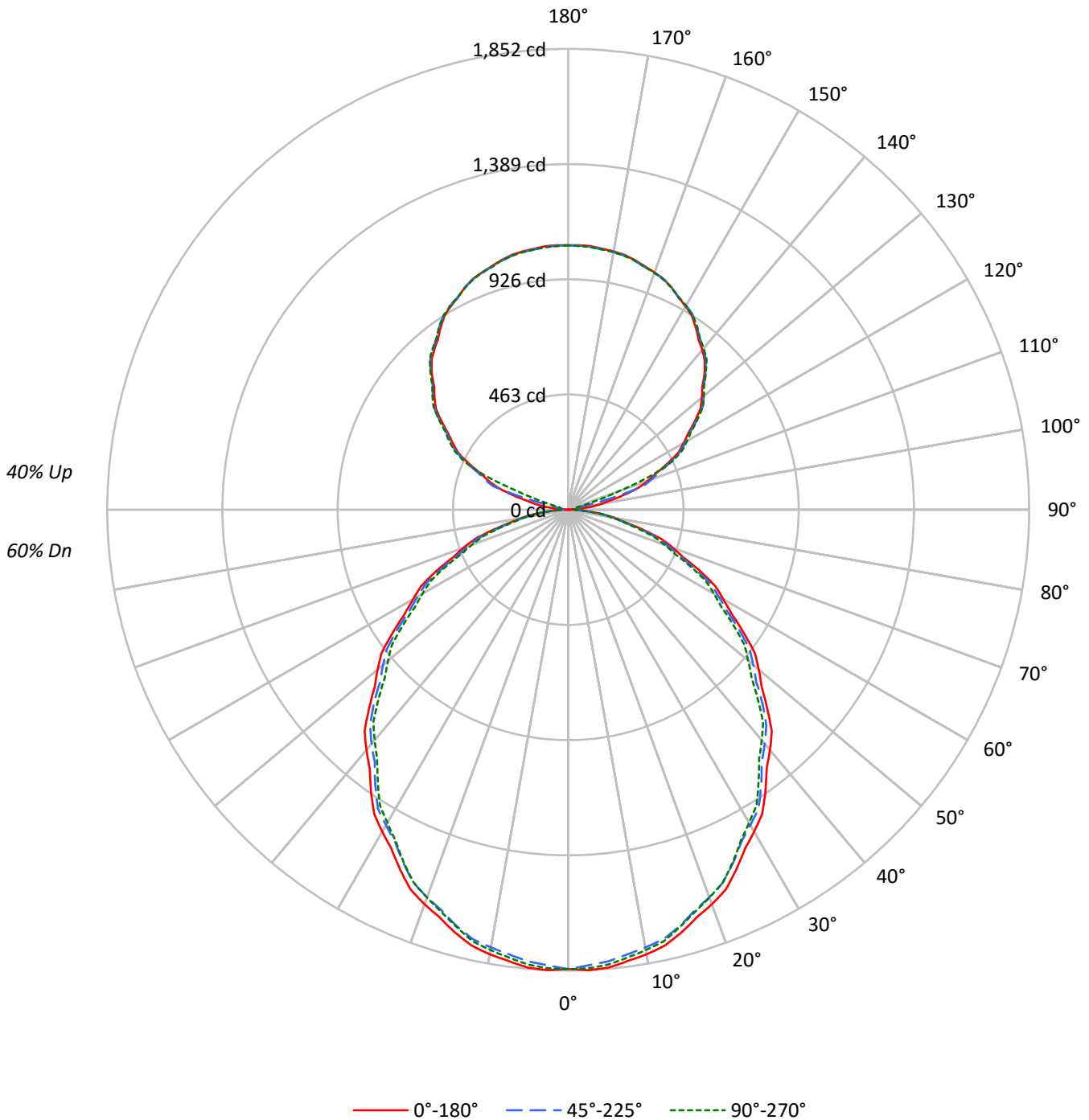
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	100	95	91	88	93	89	86	83	78	75	73	67	65	64	57	56	55	50
2	91	83	77	72	85	78	73	68	68	64	60	59	56	53	50	48	46	42
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	45	42	39	35
4	76	65	57	51	71	61	54	48	53	48	43	46	42	38	40	37	34	30
5	70	58	50	43	65	54	47	41	48	42	37	42	37	33	36	32	29	26
6	64	52	44	38	60	49	41	36	43	37	33	38	33	29	33	29	26	23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	21
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	24	21	18
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	17
10	48	36	28	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15

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

	0°	45°	90°
0°	19871	19871	19871
5°	19966	19690	19827
10°	19831	19519	19641
15°	19601	19299	19334
20°	19329	18984	19001
25°	18966	18608	18570
30°	18567	18191	18053
35°	18148	17751	17521
40°	17710	17265	16996
45°	17230	16818	16407
50°	16747	16268	15816
55°	16117	15700	15221
60°	15481	15035	14557
65°	14918	14314	13868
70°	14090	13489	12891
75°	12872	12410	11882
80°	11610	11120	11021
85°	10189	9806	9411



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	173.9	2.2
10°-20°	491.0	6.1
20°-30°	725.3	9.0
30°-40°	847.3	10.5
40°-50°	851.8	10.6
50°-60°	748.3	9.3
60°-70°	557.5	6.9
70°-80°	317.6	3.9
80°-90°	94.1	1.2
90°-100°	38.6	0.5
100°-110°	184.1	2.3
110°-120°	442.3	5.5
120°-130°	563.2	7.0
130°-140°	601.8	7.5
140°-150°	562.7	7.0
150°-160°	453.9	5.6
160°-170°	293.0	3.6
170°-180°	101.0	1.3
0°-30°	1390.3	17.3
0°-40°	2237.6	27.8
0°-60°	3837.7	47.7
0°-90°	4806.9	59.7
90°-120°	665.1	8.3
90°-150°	2392.8	29.7
90°-180°	3241.0	40.3
0°-180°	8047.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1846	1846	1846	1846	1846	
5°	1848	1839	1822	1837	1835	175
15°	1759	1752	1732	1743	1735	496
25°	1597	1587	1567	1568	1564	735
35°	1381	1371	1351	1341	1333	864
45°	1132	1125	1105	1086	1078	873
55°	859	856	837	820	811	769
65°	586	577	562	550	544	578
75°	310	303	298	291	286	331
85°	82	80	79	76	76	91
90°	1	9	19	22	24	7
95°	48	18	24	30	30	60
105°	235	240	173	41	35	249
115°	441	446	453	461	464	435
125°	622	628	632	633	635	555
135°	774	779	782	784	782	596
145°	894	899	901	902	902	559
155°	984	983	984	987	983	453
165°	1038	1036	1035	1041	1036	293
175°	1063	1059	1060	1064	1059	101
180°	1063	1063	1063	1063	1063	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1
2.5°	1852.5	1851.4	1850.3	1849.2	1848.0	1845.8	1842.8	1839.7	1836.5	1833.4	1836.2
5°	1847.8	1846.0	1844.2	1842.5	1840.7	1837.9	1834.0	1830.1	1826.2	1822.3	1825.8
7.5°	1829.7	1827.9	1826.1	1824.3	1822.6	1819.7	1815.6	1811.7	1807.7	1803.6	1806.7
10°	1814.4	1812.6	1810.9	1809.1	1807.4	1804.2	1799.6	1795.0	1790.4	1785.8	1789.0
12.5°	1794.1	1792.6	1791.1	1789.7	1788.2	1785.2	1781.0	1776.7	1772.3	1768.1	1770.4
15°	1758.9	1757.5	1756.1	1754.6	1753.2	1750.2	1745.7	1741.0	1736.5	1731.8	1734.6
17.5°	1717.9	1716.1	1714.2	1712.4	1710.5	1707.4	1702.7	1698.2	1693.5	1689.0	1691.0
20°	1687.4	1685.3	1683.1	1681.0	1679.0	1675.6	1671.0	1666.5	1661.8	1657.3	1658.7
22.5°	1653.1	1651.0	1648.9	1646.8	1644.7	1641.3	1636.7	1632.1	1627.6	1623.0	1624.1
25°	1596.9	1594.8	1592.7	1590.5	1588.5	1585.1	1580.5	1576.0	1571.3	1566.8	1567.1
27.5°	1536.9	1534.9	1532.9	1530.8	1528.7	1525.3	1520.4	1515.4	1510.5	1505.5	1505.8
30°	1493.8	1492.0	1490.3	1488.4	1486.7	1483.4	1478.4	1473.5	1468.5	1463.6	1463.6
32.5°	1450.6	1448.2	1445.9	1443.6	1441.3	1438.1	1434.4	1430.6	1426.7	1423.0	1421.0
35°	1381.1	1379.0	1376.8	1374.7	1372.6	1369.3	1364.6	1360.1	1355.4	1350.9	1348.8
37.5°	1309.9	1307.3	1304.5	1301.9	1299.2	1295.6	1290.9	1286.3	1281.6	1276.9	1274.3
40°	1260.4	1258.3	1256.2	1254.1	1251.9	1248.4	1243.4	1238.5	1233.6	1228.7	1225.9
42.5°	1210.8	1208.5	1206.1	1203.7	1201.2	1197.6	1192.7	1187.7	1182.8	1177.9	1175.1
45°	1131.9	1130.4	1129.0	1127.6	1126.2	1123.2	1118.6	1114.0	1109.4	1104.8	1100.7
47.5°	1053.4	1051.4	1049.4	1047.2	1045.2	1042.1	1037.7	1033.4	1029.2	1024.8	1020.7
50°	1000.1	998.4	996.5	994.8	993.0	989.9	985.2	980.7	976.0	971.5	967.7
52.5°	944.2	943.0	941.8	940.6	939.4	936.3	931.5	926.7	921.8	916.9	913.5
55°	858.8	858.5	858.1	857.8	857.4	855.0	850.3	845.8	841.1	836.6	832.7
57.5°	777.5	776.3	775.1	774.0	772.7	770.3	766.6	763.0	759.3	755.6	752.1
60°	719.1	718.7	718.4	718.0	717.7	715.4	711.1	706.9	702.7	698.4	695.3
62.5°	667.0	666.1	665.2	664.3	663.4	660.8	656.5	652.3	648.1	643.9	640.7
65°	585.7	584.0	582.2	580.5	578.7	576.0	572.5	569.0	565.4	562.0	559.2
67.5°	499.7	498.2	496.7	495.0	493.5	491.4	488.7	486.0	483.3	480.7	478.2
70°	447.7	445.6	443.4	441.3	439.2	437.1	434.9	432.8	430.7	428.6	426.2
72.5°	393.0	391.5	389.9	388.4	386.9	384.9	382.4	380.0	377.7	375.3	373.0
75°	309.5	308.1	306.7	305.3	303.9	302.7	301.6	300.5	299.5	298.4	296.7
77.5°	235.6	234.8	234.0	233.3	232.5	231.5	230.1	228.9	227.6	226.4	225.2
80°	187.3	186.2	185.2	184.1	183.1	182.2	181.5	180.8	180.1	179.4	179.0
82.5°	140.4	140.1	139.9	139.7	139.5	139.3	139.2	139.1	138.9	138.8	138.1
85°	82.5	81.8	81.1	80.4	79.7	79.4	79.4	79.4	79.4	79.4	78.7
87.5°	33.2	32.7	32.2	31.7	31.2	31.0	31.2	31.4	31.5	31.7	31.6
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.3	16.7	19.0	19.7
92.5°	14.6	14.2	13.7	13.2	12.7	13.3	15.0	16.8	18.5	20.2	21.3
95°	48.2	41.0	33.7	26.6	19.4	16.8	18.7	20.6	22.5	24.4	25.8
97.5°	96.7	93.6	90.4	87.2	83.9	75.9	63.3	50.7	38.1	25.4	26.9
100°	133.4	136.9	140.5	143.9	147.4	135.5	108.2	80.8	53.4	26.1	27.5
102.5°	175.1	177.6	180.2	182.7	185.2	171.6	141.7	111.7	81.8	51.9	47.6
105°	235.3	237.2	239.1	241.1	243.0	236.1	220.3	204.5	188.6	172.9	141.9
107.5°	298.7	300.3	301.8	303.4	304.9	306.9	309.4	311.9	314.4	316.9	294.2
110°	341.0	342.4	343.9	345.3	346.7	348.3	350.3	352.2	354.2	356.1	350.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.5	382.7	384.1	385.3	386.6	388.1	390.1	392.0	393.9	395.9	396.0
115°	441.3	442.4	443.4	444.5	445.6	446.9	448.5	450.0	451.6	453.2	454.9
117.5°	499.3	500.6	501.9	503.2	504.4	505.5	506.3	507.2	508.0	508.8	510.2
120°	535.3	536.8	538.5	540.0	541.6	542.7	543.2	543.7	544.2	544.7	546.1
122.5°	571.9	573.2	574.5	575.8	577.1	578.0	578.8	579.5	580.1	580.8	581.8
125°	622.2	623.5	624.9	626.3	627.7	628.8	629.5	630.2	630.9	631.6	632.0
127.5°	670.8	672.2	673.6	675.0	676.4	677.5	678.3	679.2	680.0	680.9	681.5
130°	701.0	702.5	703.9	705.3	706.7	707.7	708.4	709.1	709.8	710.5	711.2
132.5°	730.1	731.5	733.0	734.4	735.8	736.7	737.3	737.8	738.4	739.0	739.7
135°	774.5	775.6	776.6	777.7	778.7	779.6	780.3	781.0	781.7	782.4	782.9
137.5°	812.4	813.7	815.1	816.4	817.7	818.6	819.0	819.4	819.7	820.1	821.0
140°	837.7	838.7	839.8	840.8	841.9	842.6	843.2	843.7	844.2	844.8	845.5
142.5°	861.0	862.1	863.1	864.2	865.3	866.1	866.6	867.1	867.6	868.2	868.7
145°	893.7	894.9	896.2	897.4	898.7	899.4	899.8	900.1	900.5	900.8	901.2
147.5°	924.5	925.3	926.1	927.0	927.8	928.4	928.7	929.0	929.4	929.7	930.1
150°	943.4	944.0	944.5	945.0	945.5	946.0	946.3	946.7	947.1	947.5	947.8
152.5°	960.5	960.8	961.0	961.3	961.5	961.7	961.9	962.1	962.4	962.6	963.2
155°	984.5	984.2	983.8	983.5	983.1	983.0	983.2	983.4	983.5	983.7	984.6
157.5°	1003.1	1003.1	1003.1	1003.0	1003.0	1002.9	1002.7	1002.6	1002.4	1002.2	1003.3
160°	1014.5	1014.3	1014.2	1014.0	1013.8	1013.6	1013.5	1013.3	1013.1	1012.9	1014.0
162.5°	1025.2	1024.8	1024.3	1023.9	1023.4	1023.1	1022.9	1022.8	1022.6	1022.4	1023.6
165°	1038.2	1037.6	1037.1	1036.6	1036.1	1035.7	1035.6	1035.4	1035.2	1035.0	1036.4
167.5°	1048.3	1047.6	1046.9	1046.2	1045.5	1045.1	1045.1	1045.1	1045.1	1045.1	1046.5
170°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.9	1050.9	1050.9	1050.9	1050.9	1052.3
172.5°	1057.7	1056.9	1056.1	1055.2	1054.4	1054.1	1054.2	1054.3	1054.5	1054.6	1056.0
175°	1062.7	1061.8	1061.0	1060.1	1059.1	1058.8	1058.9	1059.1	1059.3	1059.6	1060.8
177.5°	1063.9	1063.3	1062.6	1061.9	1061.2	1060.9	1061.0	1061.2	1061.3	1061.4	1062.6
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1
2.5°	1839.1	1841.9	1844.7	1846.0	1845.7	1845.4	1845.1	1844.9
5°	1829.4	1832.9	1836.4	1837.9	1837.1	1836.4	1835.7	1835.0
7.5°	1810.0	1813.1	1816.3	1817.7	1817.3	1816.8	1816.4	1816.0
10°	1792.2	1795.3	1798.6	1799.8	1799.1	1798.4	1797.7	1797.0
12.5°	1772.7	1775.0	1777.4	1778.4	1777.9	1777.5	1777.1	1776.7
15°	1737.5	1740.3	1743.1	1743.5	1741.4	1739.3	1737.2	1735.0
17.5°	1692.9	1695.0	1696.9	1697.5	1696.8	1696.0	1695.2	1694.5
20°	1660.1	1661.5	1662.9	1663.0	1662.0	1660.9	1659.9	1658.8
22.5°	1625.3	1626.4	1627.5	1627.4	1626.1	1624.7	1623.4	1622.0
25°	1567.5	1567.8	1568.2	1567.8	1566.8	1565.7	1564.7	1563.6
27.5°	1506.1	1506.3	1506.6	1506.1	1504.8	1503.4	1502.1	1500.8
30°	1463.6	1463.6	1463.6	1462.4	1459.9	1457.4	1454.9	1452.5
32.5°	1419.0	1417.0	1415.0	1413.4	1412.1	1410.7	1409.4	1408.1
35°	1346.7	1344.5	1342.4	1340.5	1338.7	1337.0	1335.1	1333.4
37.5°	1271.8	1269.3	1266.8	1265.0	1263.7	1262.6	1261.5	1260.4
40°	1223.0	1220.2	1217.4	1215.3	1213.9	1212.4	1211.0	1209.6
42.5°	1172.3	1169.4	1166.6	1164.5	1163.1	1161.6	1160.2	1158.8
45°	1096.4	1092.2	1087.9	1084.9	1083.2	1081.4	1079.6	1077.8
47.5°	1016.5	1012.4	1008.1	1005.3	1003.8	1002.2	1000.7	999.2
50°	963.7	959.9	955.9	953.0	950.9	948.8	946.6	944.5
52.5°	910.3	907.0	903.6	900.9	898.8	896.7	894.5	892.4
55°	828.8	825.0	821.0	818.2	816.5	814.7	812.9	811.1
57.5°	748.7	745.3	741.7	739.0	737.0	735.0	732.9	730.8
60°	692.2	688.9	685.8	683.3	681.6	679.7	678.0	676.2
62.5°	637.5	634.3	631.2	628.9	627.7	626.5	625.4	624.2
65°	556.3	553.5	550.7	548.8	547.6	546.6	545.5	544.5
67.5°	475.7	473.2	470.8	468.8	467.4	465.9	464.3	462.9
70°	423.6	421.2	418.7	416.6	414.9	413.0	411.3	409.6
72.5°	370.9	368.7	366.5	365.0	364.1	363.1	362.2	361.3
75°	294.9	293.2	291.3	289.9	288.9	287.8	286.8	285.7
77.5°	224.0	222.8	221.6	221.0	221.0	221.0	221.0	221.0
80°	178.6	178.3	177.9	177.8	177.8	177.8	177.8	177.8
82.5°	137.4	136.8	136.2	135.7	135.4	135.2	134.9	134.6
85°	78.0	77.3	76.5	76.2	76.2	76.2	76.2	76.2
87.5°	31.4	31.3	31.2	31.1	31.2	31.3	31.3	31.4
90°	20.4	21.0	21.7	22.3	22.6	23.0	23.3	23.7
92.5°	22.4	23.5	24.7	25.3	25.5	25.8	26.0	26.3
95°	27.0	28.2	29.4	30.0	30.0	30.0	30.0	30.0
97.5°	28.3	29.6	31.0	31.8	32.0	32.2	32.3	32.5
100°	28.9	30.3	31.7	32.4	32.6	32.8	33.0	33.1
102.5°	43.2	38.9	34.5	32.5	32.8	33.1	33.4	33.8
105°	110.8	79.8	48.7	33.3	33.7	34.0	34.4	34.7
107.5°	271.4	248.6	225.8	202.7	179.4	155.9	132.5	109.1
110°	344.5	338.7	333.0	317.5	292.4	267.3	242.2	217.1





TEST NUMBER: P332069-840

CATALOG NUMBER: S123DIP-S1165D805U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.1	396.2	396.3	393.6	388.4	383.0	377.8	372.5
115°	456.7	458.5	460.2	461.4	462.1	462.8	463.5	464.2
117.5°	511.6	513.0	514.3	515.1	515.3	515.4	515.5	515.7
120°	547.5	549.0	550.4	551.1	551.1	551.1	551.1	551.1
122.5°	582.7	583.7	584.7	585.2	585.4	585.5	585.7	585.8
125°	632.3	632.7	633.0	633.4	633.7	634.1	634.4	634.8
127.5°	682.0	682.6	683.1	683.2	682.9	682.6	682.2	681.9
130°	712.0	712.7	713.4	713.6	713.2	712.9	712.5	712.2
132.5°	740.3	741.0	741.7	741.8	741.4	740.9	740.4	739.9
135°	783.5	784.0	784.5	784.5	784.0	783.5	782.9	782.4
137.5°	821.8	822.6	823.5	823.7	823.4	823.0	822.7	822.3
140°	846.2	846.9	847.6	847.8	847.4	847.1	846.7	846.4
142.5°	869.3	869.8	870.4	870.4	869.9	869.4	869.0	868.5
145°	901.5	901.9	902.2	902.4	902.4	902.4	902.4	902.4
147.5°	930.4	930.8	931.1	930.9	930.1	929.3	928.5	927.7
150°	948.1	948.5	948.8	948.8	948.2	947.7	947.2	946.6
152.5°	963.8	964.4	965.1	965.0	964.2	963.4	962.6	961.8
155°	985.5	986.3	987.2	987.1	986.1	985.0	984.0	982.9
157.5°	1004.3	1005.3	1006.4	1006.2	1004.9	1003.5	1002.2	1000.8
160°	1015.0	1016.1	1017.1	1017.0	1015.8	1014.6	1013.4	1012.2
162.5°	1024.8	1026.0	1027.1	1027.2	1026.1	1025.0	1024.0	1022.9
165°	1037.8	1039.3	1040.7	1040.8	1039.6	1038.2	1037.0	1035.8
167.5°	1047.9	1049.4	1050.8	1050.8	1049.4	1047.9	1046.5	1045.1
170°	1053.6	1055.0	1056.4	1056.4	1055.0	1053.6	1052.3	1050.9
172.5°	1057.4	1058.8	1060.3	1060.2	1058.6	1057.1	1055.5	1054.0
175°	1062.0	1063.2	1064.4	1064.3	1063.0	1061.6	1060.2	1058.7
177.5°	1063.7	1064.8	1065.9	1065.8	1064.4	1063.0	1061.6	1060.2
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7

(END OF REPORT)