

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: P332061-840

Luminaire Tested: **S123DIP-S1165D585U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332061-840
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-S1165D585U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6837.7 lumens
Efficiency: N/A
Efficacy: 124.1 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

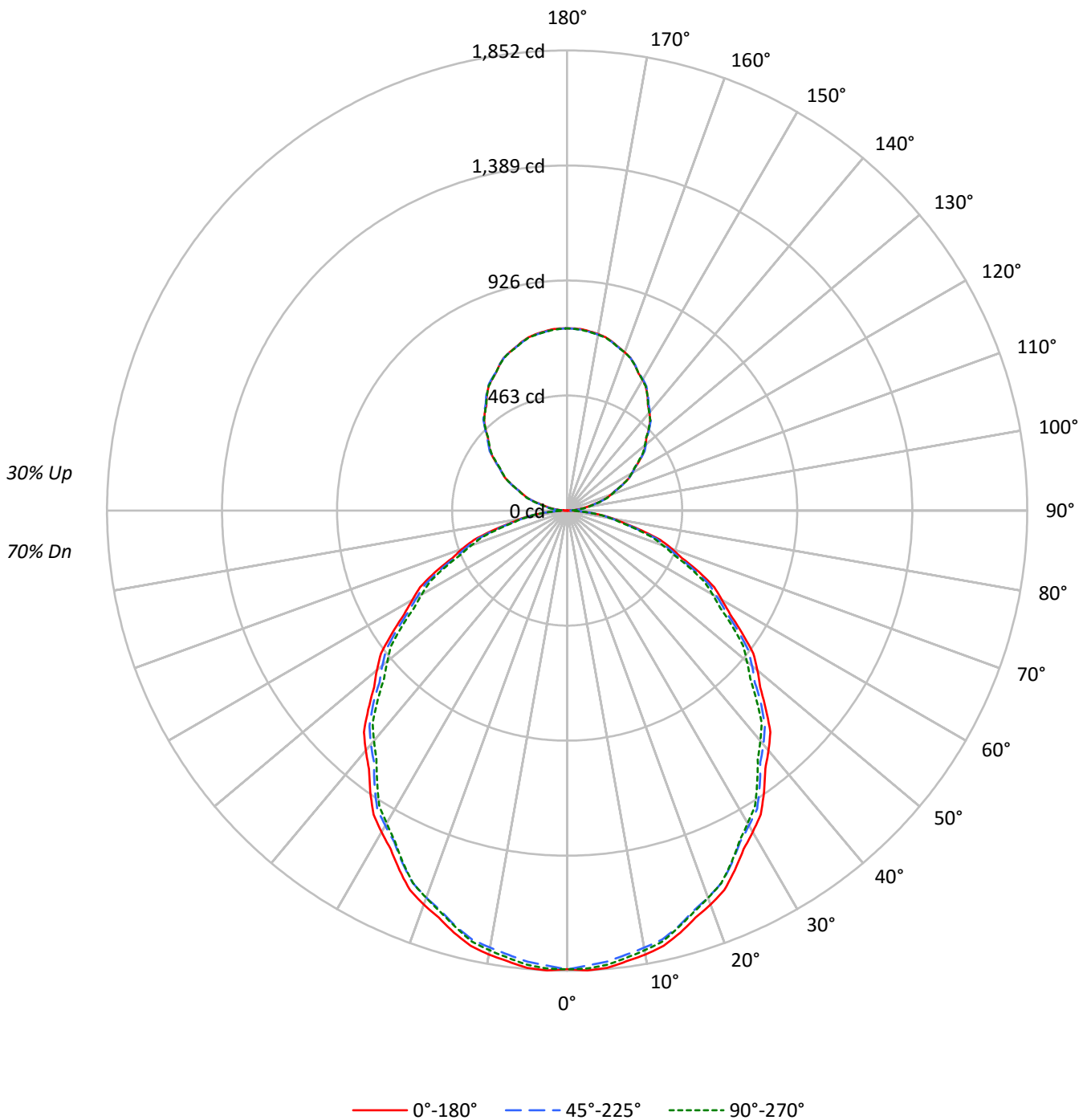
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332061-840

CATALOG NUMBER: S123DIP-S1165D585U840-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332061-840

CATALOG NUMBER: S123DIP-S1165D585U840-4F0-1E-UDD-F1

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	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	70
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	64	63	59
2	93	85	79	74	88	81	75	70	73	68	64	65	62	59	58	55	53	49
3	85	75	67	61	80	71	64	59	64	59	54	58	53	50	51	48	45	42
4	78	66	58	52	73	63	56	50	57	51	46	51	46	42	46	42	39	36
5	71	59	51	45	67	57	49	43	51	45	40	46	41	37	41	37	34	31
6	66	53	45	39	62	51	43	38	46	40	35	42	36	32	38	33	30	27
7	61	48	40	34	58	46	38	33	42	36	31	38	33	29	34	30	27	24
8	57	44	36	30	54	42	35	29	38	32	28	35	30	26	32	27	24	22
9	53	40	32	27	50	39	31	26	35	29	25	32	27	23	29	25	22	19
10	50	37	30	25	47	35	29	24	33	27	22	30	25	21	27	23	20	18

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



TEST NUMBER: P332061-840

CATALOG NUMBER: S123DIP-S1165D585U840-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.9	2.5
10°-20°	491.0	7.2
20°-30°	725.3	10.6
30°-40°	847.3	12.4
40°-50°	851.8	12.5
50°-60°	748.3	10.9
60°-70°	557.5	8.2
70°-80°	317.6	4.6
80°-90°	93.3	1.4
90°-100°	47.8	0.7
100°-110°	143.0	2.1
110°-120°	243.2	3.6
120°-130°	319.9	4.7
130°-140°	359.5	5.3
140°-150°	353.4	5.2
150°-160°	297.5	4.4
160°-170°	198.0	2.9
170°-180°	69.3	1.0
0°-30°	1390.3	20.3
0°-40°	2237.6	32.7
0°-60°	3837.7	56.1
0°-90°	4806.1	70.3
90°-120°	433.9	6.3
90°-150°	1466.7	21.5
90°-180°	2032.0	29.7
0°-180°	6837.7	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	6	14	16	17	7
95°	34	38	43	45	45	38
105°	130	131	136	136	137	139
115°	245	246	245	246	245	242
125°	358	360	359	357	354	319
135°	465	468	468	465	464	358
145°	564	565	567	566	564	352
155°	646	646	646	648	645	297
165°	703	702	702	705	701	198
175°	732	729	729	732	729	69
180°	733	733	733	733	733	



TEST NUMBER: P332061-840

CATALOG NUMBER: S123DIP-S1165D585U840-4F0-1E-UDD-F1

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°	33.1	32.5	31.9	31.4	30.8	30.5	30.6	30.6	30.7	30.7	30.5
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°	13.9	14.8	15.7	16.6	17.5	18.4	19.3	20.2	21.2	22.1	22.5
95°	34.0	34.8	35.7	36.7	37.6	38.6	39.6	40.6	41.6	42.6	43.1
97.5°	60.4	61.0	61.7	62.4	63.0	63.7	64.4	65.2	65.9	66.8	67.3
100°	78.4	79.1	79.9	80.7	81.4	82.1	82.7	83.4	84.0	84.6	85.0
102.5°	99.1	99.6	100.0	100.5	100.9	101.6	102.4	103.3	104.1	104.9	105.3
105°	129.6	129.9	130.1	130.4	130.7	131.3	132.5	133.6	134.8	135.9	135.9
107.5°	165.1	165.2	165.4	165.5	165.7	166.0	166.4	166.9	167.4	167.8	168.2
110°	187.2	187.4	187.7	187.9	188.2	188.4	188.7	189.0	189.2	189.6	190.1



TEST NUMBER: P332061-840

CATALOG NUMBER: S123DIP-S1165D585U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.3	210.4	210.6	210.7	210.9	211.0	211.1	211.1	211.2	211.2	211.8
115°	244.8	245.2	245.6	246.0	246.3	246.4	246.1	245.9	245.6	245.4	245.5
117.5°	279.6	279.8	280.1	280.3	280.6	280.5	280.2	279.9	279.6	279.2	279.2
120°	301.2	302.1	302.8	303.6	304.4	304.4	303.8	303.2	302.5	301.8	301.7
122.5°	323.9	324.4	325.0	325.5	326.1	326.2	325.9	325.6	325.2	324.9	324.6
125°	358.3	358.7	359.0	359.4	359.8	359.9	359.6	359.4	359.1	358.9	358.3
127.5°	390.1	390.9	391.7	392.5	393.3	393.6	393.3	393.0	392.7	392.5	391.8
130°	411.3	412.3	413.3	414.3	415.4	415.7	415.4	415.0	414.5	414.1	413.6
132.5°	432.4	433.5	434.5	435.6	436.6	437.0	436.7	436.4	436.1	435.9	435.2
135°	464.8	465.6	466.4	467.2	467.9	468.3	468.1	468.0	467.9	467.8	467.3
137.5°	494.8	495.4	496.0	496.8	497.4	497.9	498.2	498.5	498.9	499.2	498.7
140°	515.5	516.1	516.8	517.5	518.1	518.5	518.6	518.8	518.9	519.0	518.9
142.5°	534.4	535.0	535.7	536.3	536.9	537.5	537.7	537.9	538.2	538.4	538.3
145°	563.9	564.2	564.4	564.7	564.9	565.2	565.6	566.0	566.4	566.8	566.6
147.5°	589.8	590.2	590.7	591.1	591.6	592.0	592.4	592.7	593.1	593.4	593.4
150°	607.7	607.9	608.2	608.4	608.7	608.9	609.3	609.5	609.8	610.0	610.0
152.5°	622.5	622.8	623.2	623.5	623.9	624.1	624.3	624.4	624.6	624.7	624.9
155°	645.7	645.7	645.7	645.7	645.7	645.8	645.9	646.0	646.2	646.3	646.8
157.5°	665.5	665.4	665.2	665.1	664.9	664.9	665.0	665.1	665.2	665.3	665.8
160°	677.9	677.7	677.4	677.2	676.9	676.8	676.8	676.8	676.8	676.8	677.4
162.5°	689.0	688.6	688.3	687.9	687.6	687.5	687.6	687.7	687.8	687.9	688.5
165°	703.3	703.0	702.6	702.2	701.8	701.6	701.6	701.6	701.6	701.6	702.4
167.5°	714.7	714.2	713.7	713.2	712.7	712.5	712.6	712.7	712.8	712.9	713.7
170°	721.1	720.6	720.1	719.6	719.1	718.8	718.8	718.8	718.8	718.8	719.7
172.5°	726.2	725.7	725.2	724.7	724.2	724.0	724.0	724.0	724.0	724.0	724.8
175°	731.5	731.0	730.5	730.0	729.5	729.2	729.2	729.2	729.2	729.2	730.0
177.5°	733.8	733.4	733.0	732.5	732.1	731.8	731.8	731.8	731.8	731.8	732.5
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3



TEST NUMBER: P332061-840

CATALOG NUMBER: S123DIP-S1165D585U840-4F0-1E-UDD-F1

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°	30.3	30.2	30.0	29.9	30.0	30.0	30.1	30.1
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	22.9	23.3	23.7	23.9	23.7	23.5	23.4	23.2
95°	43.6	44.1	44.6	44.9	44.9	44.9	44.9	44.9
97.5°	67.9	68.5	69.1	69.3	69.3	69.2	69.2	69.1
100°	85.4	85.8	86.2	86.5	86.7	87.1	87.3	87.6
102.5°	105.7	106.1	106.4	106.6	106.6	106.5	106.5	106.4
105°	135.9	135.9	135.9	136.0	136.3	136.5	136.8	137.1
107.5°	168.6	169.1	169.5	169.7	169.5	169.4	169.2	169.1
110°	190.6	191.1	191.6	191.7	191.5	191.2	191.0	190.7



TEST NUMBER: P332061-840

CATALOG NUMBER: S123DIP-S1165D585U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	213.0	213.6	213.9	213.9	213.8	213.8	213.7
115°	245.6	245.8	245.9	245.9	245.8	245.6	245.5	245.4
117.5°	279.2	279.1	279.1	278.9	278.6	278.2	277.9	277.5
120°	301.5	301.4	301.3	301.1	300.8	300.6	300.3	300.1
122.5°	324.2	323.9	323.6	323.2	322.9	322.4	322.1	321.7
125°	357.8	357.3	356.8	356.3	355.8	355.3	354.8	354.3
127.5°	391.0	390.3	389.6	389.0	388.4	387.8	387.2	386.6
130°	413.1	412.6	412.1	411.4	410.5	409.6	408.7	407.8
132.5°	434.5	433.9	433.3	432.7	432.0	431.3	430.6	429.9
135°	466.7	466.2	465.6	465.2	465.0	464.7	464.5	464.2
137.5°	498.1	497.6	497.1	496.6	496.0	495.5	495.0	494.5
140°	518.8	518.6	518.5	518.0	517.1	516.1	515.2	514.4
142.5°	538.1	538.0	537.9	537.5	536.7	536.0	535.3	534.6
145°	566.5	566.4	566.3	565.9	565.4	564.9	564.4	563.9
147.5°	593.4	593.4	593.4	593.0	592.3	591.5	590.8	590.0
150°	610.0	610.0	610.0	609.7	608.8	608.0	607.3	606.5
152.5°	625.2	625.4	625.6	625.3	624.7	624.0	623.4	622.7
155°	647.3	647.8	648.3	648.1	647.2	646.3	645.5	644.6
157.5°	666.4	666.9	667.4	667.3	666.6	665.9	665.2	664.5
160°	678.1	678.7	679.3	679.4	678.9	678.4	677.9	677.4
162.5°	689.1	689.8	690.4	690.3	689.5	688.7	687.9	687.1
165°	703.2	703.9	704.7	704.6	703.7	702.8	702.0	701.0
167.5°	714.5	715.3	716.1	716.1	715.3	714.5	713.7	712.9
170°	720.6	721.5	722.5	722.5	721.5	720.6	719.7	718.8
172.5°	725.5	726.3	727.1	727.1	726.2	725.3	724.4	723.5
175°	730.7	731.5	732.4	732.3	731.3	730.4	729.5	728.6
177.5°	733.2	733.8	734.4	734.3	733.6	732.9	732.2	731.4
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3

(END OF REPORT)