

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: P332080-840

Luminaire Tested: **S123DIP-S1165D1025U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332080-840
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-S1165D1025U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 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: 8554.2 lumens
Efficiency: N/A
Efficacy: 128.1 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: General Diffuse

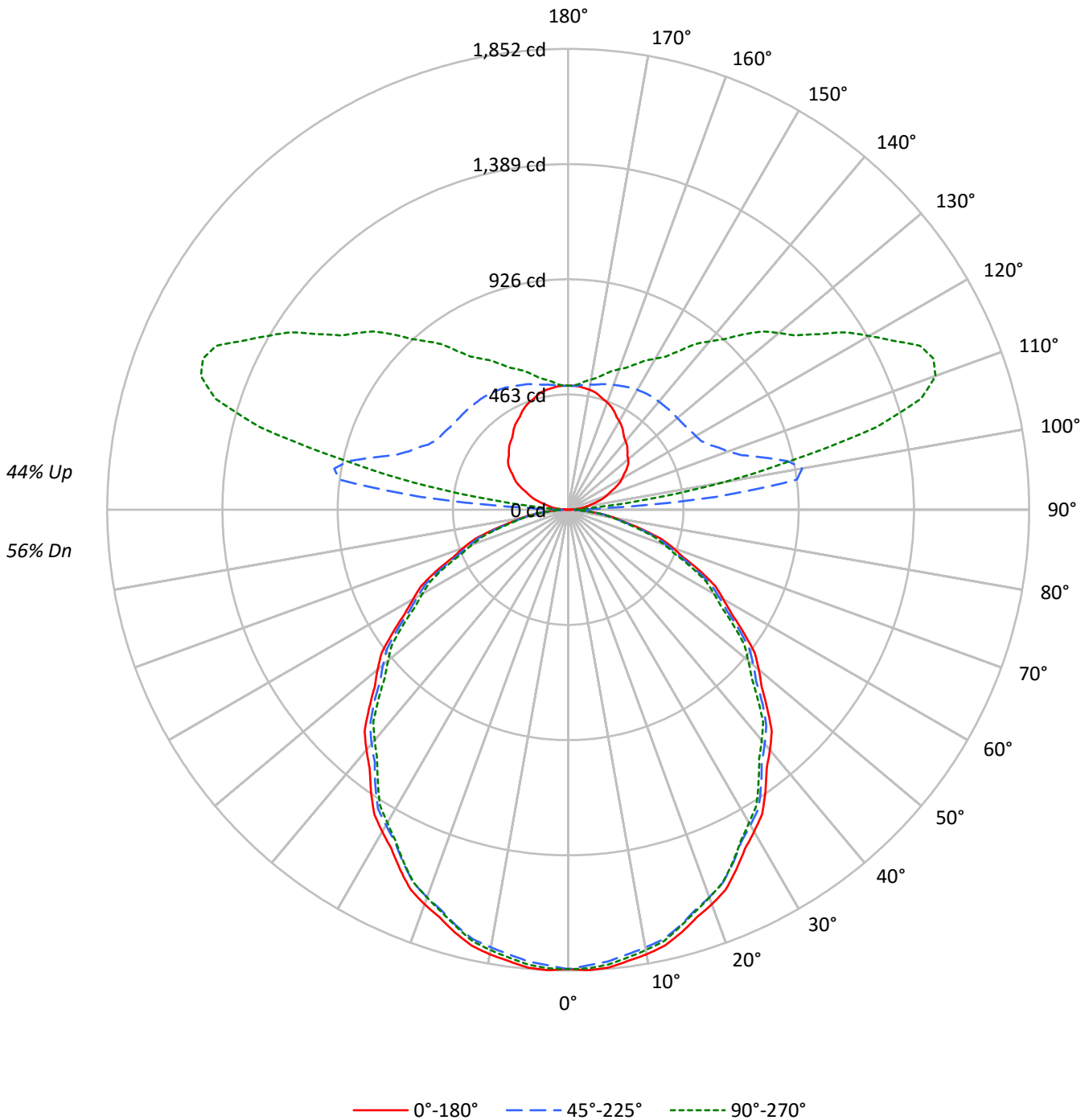
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332080-840

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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	50	30	10	0	
RCR																						
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56				
1	99	95	91	87	92	88	85	82	76	73	71	65	63	61	55	53	52	47				
2	90	83	76	71	84	77	72	67	67	62	59	57	54	51	48	46	44	39				
3	82	73	65	59	76	68	61	56	59	54	49	50	46	43	42	40	37	33				
4	75	64	56	50	70	60	53	47	52	47	42	45	41	37	38	35	32	29				
5	69	57	49	43	64	54	46	41	47	41	36	40	36	32	34	31	28	25				
6	64	51	43	37	59	48	41	35	42	36	32	36	32	28	31	27	25	22				
7	59	46	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19				
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17				
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	16				
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14				

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: P332080-840

CATALOG NUMBER: S123DIP-S1165D1025U840-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.9	2.0
10°-20°	491.0	5.7
20°-30°	725.3	8.5
30°-40°	847.3	9.9
40°-50°	851.8	10.0
50°-60°	748.3	8.7
60°-70°	557.5	6.5
70°-80°	317.6	3.7
80°-90°	95.0	1.1
90°-100°	277.1	3.2
100°-110°	784.7	9.2
110°-120°	771.9	9.0
120°-130°	615.7	7.2
130°-140°	485.5	5.7
140°-150°	362.3	4.2
150°-160°	252.5	3.0
160°-170°	148.4	1.7
170°-180°	48.3	0.6
0°-30°	1390.3	16.3
0°-40°	2237.6	26.2
0°-60°	3837.7	44.9
0°-90°	4807.7	56.2
90°-120°	1833.8	21.4
90°-150°	3297.3	38.5
90°-180°	3746.0	43.8
0°-180°	8554.2	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°	2	12	25	28	29	7
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	



TEST NUMBER: P332080-840

CATALOG NUMBER: S123DIP-S1165D1025U840-4F0-1E-UDD-F4

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°	33.4	33.0	32.5	32.3	31.8	31.7	32.0	32.3	32.6	33.0	32.5
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



TEST NUMBER: P332080-840

CATALOG NUMBER: S123DIP-S1165D1025U840-4F0-1E-UDD-F4

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



TEST NUMBER: P332080-840

CATALOG NUMBER: S123DIP-S1165D1025U840-4F0-1E-UDD-F4

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°	32.4	32.3	32.2	32.5	32.3	32.5	32.7	32.5
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: P332080-840

CATALOG NUMBER: S123DIP-S1165D1025U840-4F0-1E-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)