

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: P332087-840

Luminaire Tested: **S123DIP-S1165D1195U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332087-840
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-S1165D1195U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9624.2 lumens
Efficiency: N/A
Efficacy: 134.2 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

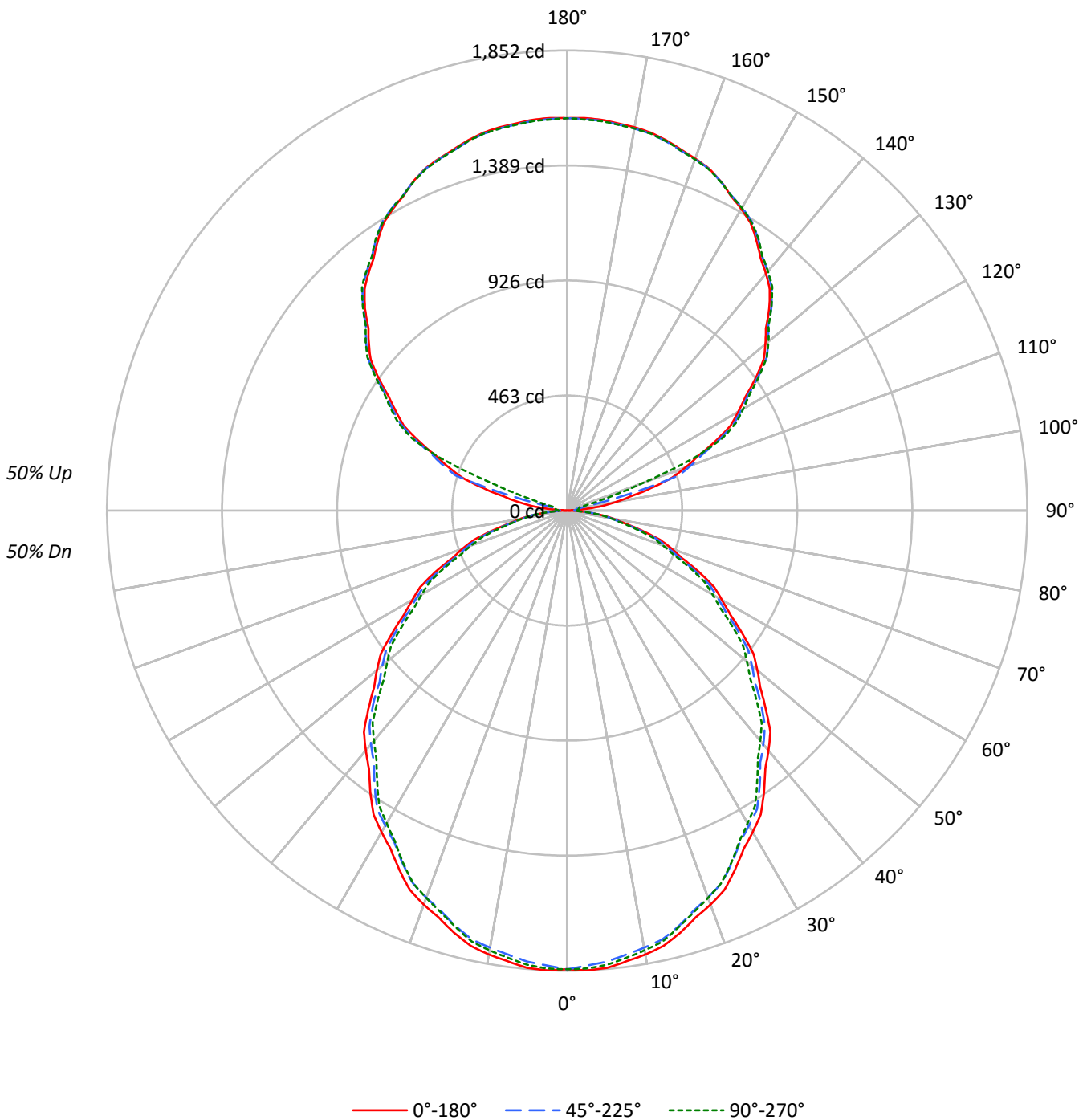
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332087-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332087-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-F

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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	86	90	86	83	80	73	71	68	61	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	40	35
3	81	72	64	58	75	66	60	55	56	51	47	47	43	40	39	36	34	30
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25
5	68	56	48	42	63	52	45	40	45	39	35	38	33	30	31	28	25	22
6	63	51	42	37	58	47	40	35	40	35	30	34	30	26	28	25	22	19
7	58	46	38	32	53	43	35	30	37	31	27	31	27	23	26	22	20	17
8	54	41	34	28	50	39	32	27	33	28	24	28	24	21	24	20	18	15
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13

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: P332087-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.9	1.8
10°-20°	491.0	5.1
20°-30°	725.3	7.5
30°-40°	847.3	8.8
40°-50°	851.8	8.9
50°-60°	748.3	7.8
60°-70°	557.5	5.8
70°-80°	317.6	3.3
80°-90°	95.6	1.0
90°-100°	57.4	0.6
100°-110°	273.6	2.8
110°-120°	657.3	6.8
120°-130°	837.0	8.7
130°-140°	894.3	9.3
140°-150°	836.3	8.7
150°-160°	674.6	7.0
160°-170°	435.4	4.5
170°-180°	150.0	1.6
0°-30°	1390.3	14.4
0°-40°	2237.6	23.2
0°-60°	3837.7	39.9
0°-90°	4808.3	50.0
90°-120°	988.3	10.3
90°-150°	3555.9	36.9
90°-180°	4816.0	50.0
0°-180°	9624.2	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°	1	13	28	33	35	8
95°	72	27	36	44	44	88
105°	350	356	257	61	52	371
115°	656	663	674	685	690	647
125°	924	934	939	941	943	825
135°	1151	1158	1163	1166	1163	886
145°	1328	1336	1339	1341	1341	831
155°	1463	1461	1462	1467	1461	674
165°	1543	1539	1538	1547	1539	436
175°	1579	1574	1574	1582	1573	150
180°	1579	1579	1579	1579	1579	



TEST NUMBER: P332087-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-F

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	32.9	32.6	32.3	31.9	32.0	32.4	32.8	33.2	33.5	33.5
90°	1.2	3.7	6.4	9.0	11.6	14.6	18.0	21.4	24.7	28.2	29.2
92.5°	21.8	21.1	20.4	19.6	18.9	19.8	22.4	24.9	27.5	30.0	31.7
95°	71.6	60.9	50.2	39.5	28.8	24.9	27.8	30.6	33.5	36.4	38.2
97.5°	143.8	139.1	134.2	129.5	124.6	112.9	94.1	75.3	56.6	37.8	39.9
100°	198.2	203.5	208.7	213.9	219.1	201.4	160.8	120.1	79.4	38.7	40.8
102.5°	260.2	264.0	267.7	271.5	275.3	254.9	210.5	166.0	121.6	77.2	70.7
105°	349.6	352.5	355.4	358.2	361.1	350.8	327.3	303.9	280.4	256.9	210.8
107.5°	443.9	446.3	448.6	450.8	453.1	456.2	459.9	463.5	467.3	471.0	437.1
110°	506.9	509.0	511.0	513.1	515.2	517.7	520.6	523.4	526.2	529.2	520.6



TEST NUMBER: P332087-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	566.9	568.8	570.7	572.6	574.4	576.8	579.7	582.6	585.4	588.2	588.4
115°	655.9	657.4	658.9	660.6	662.1	664.1	666.4	668.7	671.2	673.5	676.1
117.5°	741.9	743.9	745.8	747.8	749.7	751.2	752.5	753.7	754.9	756.1	758.1
120°	795.5	797.8	800.2	802.5	804.9	806.5	807.2	808.0	808.8	809.5	811.6
122.5°	849.9	851.8	853.7	855.7	857.7	859.1	860.1	861.1	862.0	863.0	864.5
125°	924.5	926.7	928.7	930.8	932.9	934.4	935.4	936.5	937.6	938.6	939.2
127.5°	996.8	998.9	1001.0	1003.1	1005.1	1006.8	1008.0	1009.4	1010.6	1011.8	1012.7
130°	1041.9	1044.0	1046.0	1048.1	1050.2	1051.8	1052.8	1053.9	1054.9	1055.9	1057.0
132.5°	1085.0	1087.1	1089.2	1091.3	1093.4	1094.8	1095.7	1096.5	1097.3	1098.2	1099.2
135°	1150.9	1152.6	1154.1	1155.7	1157.2	1158.5	1159.6	1160.6	1161.6	1162.8	1163.5
137.5°	1207.3	1209.3	1211.2	1213.3	1215.3	1216.5	1217.1	1217.7	1218.2	1218.8	1220.0
140°	1244.9	1246.4	1248.0	1249.5	1251.1	1252.2	1253.0	1253.8	1254.7	1255.4	1256.5
142.5°	1279.6	1281.1	1282.7	1284.2	1285.9	1287.0	1287.8	1288.6	1289.4	1290.1	1291.0
145°	1328.2	1330.0	1331.8	1333.6	1335.4	1336.7	1337.2	1337.7	1338.2	1338.7	1339.2
147.5°	1373.9	1375.1	1376.3	1377.5	1378.7	1379.6	1380.1	1380.6	1381.1	1381.6	1382.2
150°	1402.1	1402.8	1403.6	1404.4	1405.2	1405.8	1406.3	1406.8	1407.4	1408.0	1408.5
152.5°	1427.4	1427.7	1428.2	1428.5	1428.9	1429.2	1429.5	1429.9	1430.2	1430.5	1431.4
155°	1463.1	1462.6	1462.0	1461.5	1461.0	1460.9	1461.1	1461.4	1461.7	1461.9	1463.2
157.5°	1490.8	1490.7	1490.7	1490.6	1490.6	1490.4	1490.2	1489.9	1489.7	1489.3	1491.0
160°	1507.6	1507.4	1507.1	1506.9	1506.6	1506.3	1506.1	1505.8	1505.6	1505.3	1506.9
162.5°	1523.6	1523.0	1522.3	1521.6	1520.9	1520.5	1520.1	1519.9	1519.6	1519.3	1521.2
165°	1542.9	1542.1	1541.3	1540.5	1539.7	1539.2	1538.9	1538.6	1538.4	1538.1	1540.2
167.5°	1557.9	1556.8	1555.8	1554.8	1553.7	1553.2	1553.2	1553.2	1553.2	1553.2	1555.3
170°	1566.3	1565.3	1564.3	1563.2	1562.2	1561.7	1561.7	1561.7	1561.7	1561.7	1563.7
172.5°	1572.0	1570.7	1569.4	1568.2	1566.9	1566.4	1566.6	1566.8	1567.0	1567.2	1569.3
175°	1579.2	1577.9	1576.6	1575.3	1574.0	1573.5	1573.8	1574.0	1574.3	1574.5	1576.4
177.5°	1581.1	1580.0	1579.0	1578.0	1576.9	1576.5	1576.7	1576.9	1577.1	1577.3	1579.0
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



TEST NUMBER: P332087-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-F

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°	33.4	33.3	33.3	33.3	33.4	33.5	33.6	33.7
90°	30.2	31.3	32.3	33.1	33.6	34.1	34.6	35.2
92.5°	33.3	35.0	36.8	37.7	38.0	38.4	38.7	39.0
95°	40.0	41.8	43.6	44.5	44.5	44.5	44.5	44.5
97.5°	41.9	44.0	46.2	47.3	47.6	47.9	48.1	48.4
100°	42.9	44.9	47.1	48.3	48.5	48.8	49.0	49.3
102.5°	64.2	57.8	51.3	48.4	48.8	49.3	49.8	50.2
105°	164.6	118.5	72.3	49.6	50.1	50.6	51.1	51.6
107.5°	403.2	369.4	335.6	301.2	266.5	231.7	196.9	162.2
110°	511.9	503.3	494.7	471.8	434.5	397.2	359.9	322.7



TEST NUMBER: P332087-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	588.5	588.8	589.0	585.0	577.1	569.3	561.4	553.5
115°	678.6	681.3	683.9	685.7	686.7	687.8	688.8	689.8
117.5°	760.2	762.3	764.4	765.6	765.8	766.0	766.2	766.4
120°	813.7	815.8	817.9	818.9	818.9	818.9	818.9	818.9
122.5°	866.0	867.5	868.9	869.7	869.9	870.1	870.4	870.6
125°	939.7	940.2	940.7	941.2	941.7	942.3	942.8	943.3
127.5°	1013.5	1014.3	1015.1	1015.3	1014.8	1014.3	1013.8	1013.2
130°	1058.0	1059.0	1060.2	1060.4	1059.9	1059.3	1058.8	1058.3
132.5°	1100.2	1101.4	1102.4	1102.5	1101.8	1101.1	1100.3	1099.5
135°	1164.3	1165.1	1165.9	1165.9	1165.1	1164.3	1163.5	1162.8
137.5°	1221.3	1222.5	1223.8	1224.2	1223.7	1223.1	1222.6	1222.0
140°	1257.5	1258.5	1259.6	1259.8	1259.3	1258.8	1258.3	1257.8
142.5°	1291.8	1292.6	1293.4	1293.5	1292.8	1292.0	1291.3	1290.6
145°	1339.8	1340.3	1340.8	1341.0	1341.0	1341.0	1341.0	1341.0
147.5°	1382.7	1383.2	1383.7	1383.4	1382.2	1381.0	1379.8	1378.6
150°	1409.0	1409.5	1410.0	1409.9	1409.1	1408.4	1407.5	1406.7
152.5°	1432.3	1433.3	1434.2	1434.1	1432.9	1431.7	1430.5	1429.3
155°	1464.5	1465.8	1467.1	1466.9	1465.4	1463.9	1462.3	1460.8
157.5°	1492.5	1494.0	1495.6	1495.4	1493.4	1491.3	1489.2	1487.2
160°	1508.4	1510.0	1511.6	1511.5	1509.6	1507.8	1505.9	1504.1
162.5°	1523.0	1524.7	1526.5	1526.5	1524.9	1523.3	1521.7	1520.0
165°	1542.4	1544.4	1546.5	1546.6	1544.8	1543.0	1541.2	1539.3
167.5°	1557.3	1559.4	1561.6	1561.6	1559.4	1557.3	1555.3	1553.2
170°	1565.8	1567.9	1569.9	1569.9	1567.9	1565.8	1563.7	1561.7
172.5°	1571.5	1573.5	1575.6	1575.5	1573.2	1570.9	1568.6	1566.3
175°	1578.2	1580.0	1581.9	1581.7	1579.6	1577.5	1575.5	1573.4
177.5°	1580.6	1582.4	1584.0	1583.8	1581.8	1579.6	1577.5	1575.5
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2

(END OF REPORT)