

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: P332669

Luminaire Tested: **S124DIP-S1020D1205U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332669
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D1205U835-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8732.7 lumens
Efficiency: N/A
Efficacy: 133.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

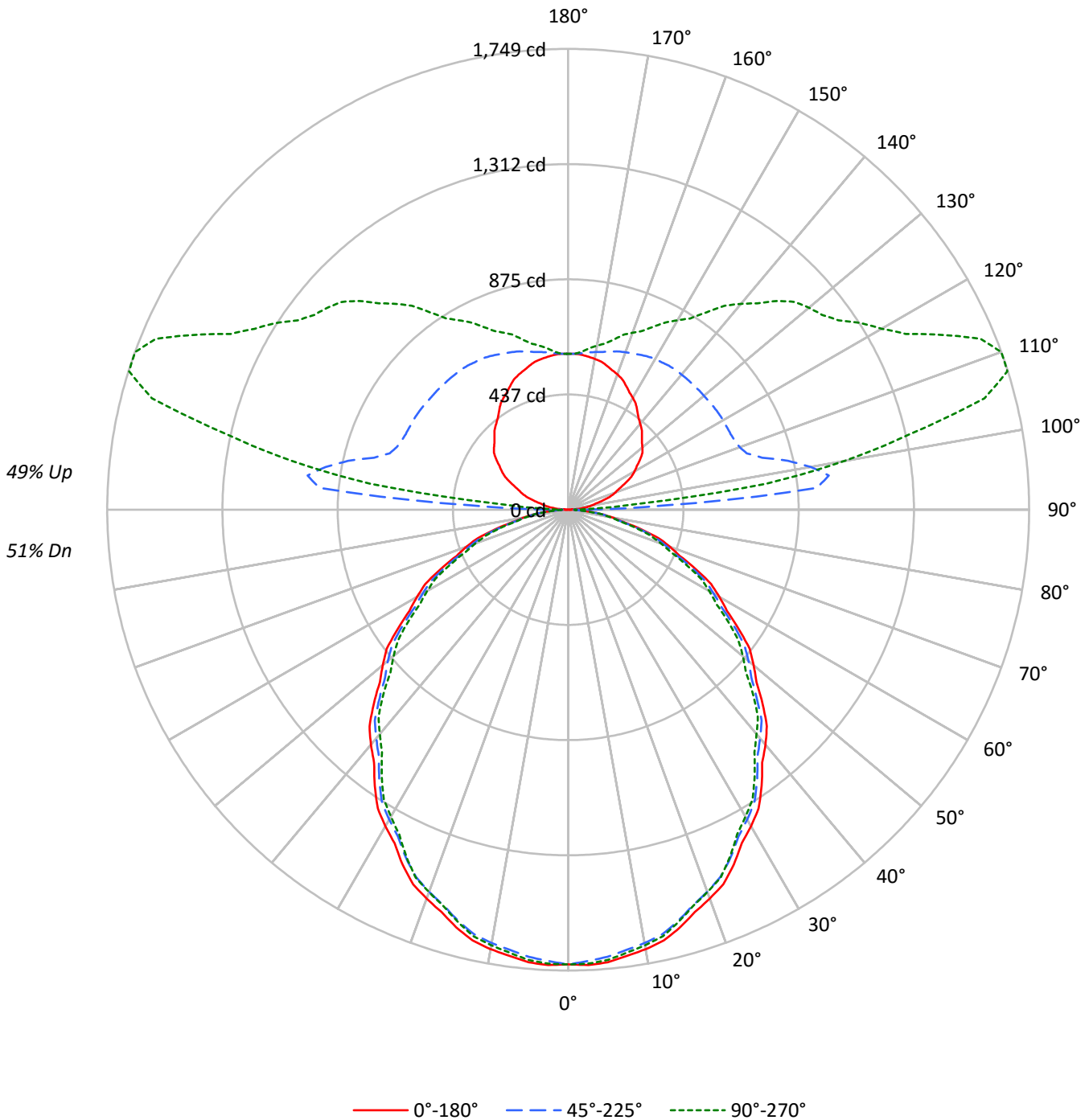
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332669

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P332669

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-F4

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	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43
2	89	82	76	70	82	76	70	66	64	60	57	54	51	48	44	42	40	36
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26	23
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	25	46	36	29	24	31	25	21	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13930	13930	13930
5°	13972	13804	13904
10°	13884	13691	13759
15°	13717	13497	13531
20°	13493	13256	13268
25°	13239	12981	12944
30°	12928	12656	12541
35°	12604	12318	12154
40°	12269	11934	11715
45°	11918	11555	11334
50°	11531	11218	10870
55°	11112	10781	10431
60°	10693	10291	9978
65°	10222	9824	9429
70°	9692	9203	8844
75°	8883	8453	8238
80°	7908	7583	7392
85°	6919	6660	6530



TEST NUMBER: P332669

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	1.9
10°-20°	457.8	5.2
20°-30°	673.9	7.7
30°-40°	783.4	9.0
40°-50°	783.4	9.0
50°-60°	685.3	7.8
60°-70°	508.9	5.8
70°-80°	289.1	3.3
80°-90°	86.7	1.0
90°-100°	427.2	4.9
100°-110°	889.1	10.2
110°-120°	796.4	9.1
120°-130°	669.9	7.7
130°-140°	558.5	6.4
140°-150°	426.7	4.9
150°-160°	299.9	3.4
160°-170°	176.4	2.0
170°-180°	57.4	0.7
0°-30°	1294.2	14.8
0°-40°	2077.6	23.8
0°-60°	3546.4	40.6
0°-90°	4431.1	50.7
90°-120°	2112.7	24.2
90°-150°	3767.8	43.1
90°-180°	4302.0	49.3
0°-180°	8732.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1726	1726	1726	1726	1726	
5°	1724	1718	1703	1718	1716	163
15°	1641	1635	1615	1622	1619	462
25°	1486	1476	1457	1458	1453	684
35°	1279	1269	1250	1240	1233	799
45°	1044	1034	1012	997	993	804
55°	790	784	766	750	741	707
65°	535	528	514	501	494	530
75°	285	278	271	266	264	303
85°	75	75	72	72	70	82
90°	1	9	21	23	24	6
95°	38	121	947	469	284	43
105°	136	197	762	1641	1635	145
115°	239	300	680	1306	1570	237
125°	334	396	676	1111	1253	297
135°	396	472	670	987	1120	306
145°	457	523	667	832	914	287
155°	519	561	648	734	766	239
165°	566	583	622	658	668	160
175°	590	592	596	604	602	56
180°	592	592	592	592	592	



TEST NUMBER: P332669

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5
2.5°	1729.9	1729.2	1728.4	1727.7	1727.0	1725.2	1722.5	1719.8	1717.1	1714.4	1716.9
5°	1724.1	1722.9	1721.7	1720.4	1719.2	1716.9	1713.5	1710.1	1706.8	1703.4	1706.8
7.5°	1708.1	1706.8	1705.6	1704.4	1703.2	1700.7	1696.9	1693.2	1689.4	1685.7	1688.4
10°	1693.7	1692.5	1691.2	1690.0	1688.8	1686.2	1682.2	1678.2	1674.2	1670.2	1672.6
12.5°	1674.9	1673.7	1672.4	1671.2	1670.0	1667.2	1663.0	1658.8	1654.5	1650.3	1653.0
15°	1641.2	1639.9	1638.7	1637.5	1636.2	1633.3	1628.7	1624.1	1619.5	1614.9	1616.7
17.5°	1600.5	1599.0	1597.4	1595.9	1594.4	1591.4	1587.0	1582.7	1578.3	1574.0	1575.1
20°	1570.6	1569.1	1567.6	1566.0	1564.5	1561.4	1556.8	1552.2	1547.6	1543.0	1543.9
22.5°	1538.6	1536.5	1534.5	1532.5	1530.5	1527.1	1522.5	1517.9	1513.3	1508.7	1510.4
25°	1486.3	1484.2	1482.0	1479.8	1477.7	1474.5	1470.2	1465.9	1461.6	1457.3	1457.6
27.5°	1426.6	1424.4	1422.1	1419.9	1417.7	1414.6	1410.6	1406.6	1402.6	1398.6	1397.9
30°	1386.8	1384.3	1381.8	1379.4	1376.9	1373.7	1369.7	1365.7	1361.7	1357.7	1356.5
32.5°	1344.7	1342.5	1340.3	1338.1	1335.9	1332.6	1328.4	1324.2	1319.9	1315.7	1314.2
35°	1278.9	1276.8	1274.6	1272.5	1270.3	1267.1	1262.8	1258.5	1254.2	1249.9	1247.7
37.5°	1209.5	1207.5	1205.6	1203.6	1201.6	1198.4	1193.7	1189.1	1184.5	1179.9	1177.6
40°	1164.2	1161.7	1159.2	1156.8	1154.3	1150.8	1146.2	1141.6	1137.0	1132.4	1129.3
42.5°	1115.5	1114.0	1112.5	1111.1	1109.6	1106.3	1101.2	1096.1	1091.0	1085.9	1082.3
45°	1043.9	1041.7	1039.6	1037.4	1035.3	1031.7	1026.8	1021.9	1017.0	1012.1	1008.7
47.5°	968.9	967.5	966.0	964.5	963.0	960.0	955.5	950.9	946.4	941.8	938.0
50°	918.1	916.8	915.6	914.4	913.1	910.4	906.1	901.8	897.5	893.2	888.9
52.5°	868.3	866.8	865.3	863.9	862.4	859.4	854.8	850.3	845.7	841.2	837.4
55°	789.5	788.5	787.6	786.7	785.8	783.2	778.9	774.6	770.3	766.0	762.3
57.5°	714.3	713.2	712.2	711.1	710.1	707.4	703.2	699.0	694.7	690.5	687.0
60°	662.3	660.7	659.2	657.7	656.1	653.4	649.4	645.4	641.4	637.4	634.6
62.5°	611.4	610.1	608.8	607.5	606.2	603.5	599.2	595.0	590.7	586.5	584.0
65°	535.1	533.5	532.0	530.5	528.9	526.6	523.5	520.5	517.4	514.3	511.3
67.5°	458.2	456.8	455.4	454.0	452.5	450.4	447.4	444.5	441.5	438.6	435.6
70°	410.6	408.5	406.3	404.2	402.0	399.7	397.3	394.8	392.4	389.9	387.4
72.5°	359.8	357.6	355.5	353.3	351.2	349.1	347.1	345.2	343.2	341.2	339.3
75°	284.8	283.3	281.7	280.2	278.7	277.1	275.6	274.1	272.5	271.0	269.8
77.5°	213.2	212.5	211.8	211.2	210.5	209.5	208.1	206.8	205.4	204.1	203.7
80°	170.1	169.1	168.2	167.3	166.4	165.6	165.0	164.4	163.8	163.1	162.5
82.5°	128.0	127.6	127.2	126.7	126.3	126.0	125.9	125.8	125.7	125.5	125.2
85°	74.7	74.7	74.7	74.7	74.7	74.4	73.7	73.1	72.5	71.9	71.9
87.5°	29.0	29.2	29.7	29.6	29.6	29.4	30.5	30.3	30.5	30.7	30.5
90°	1.2	3.5	7.0	8.1	9.3	9.3	16.3	16.3	18.6	20.9	19.8
92.5°	13.2	19.3	30.2	44.4	61.4	85.5	144.6	234.7	322.6	368.6	307.0
95°	38.3	41.8	53.5	68.6	96.4	145.3	246.3	436.9	714.6	947.0	973.8
97.5°	68.8	68.8	78.8	92.7	116.7	157.6	235.4	392.8	668.8	997.5	1223.4
100°	88.3	88.3	96.4	110.4	132.5	169.7	238.2	369.5	606.6	934.2	1231.7
102.5°	106.9	108.8	116.0	129.0	150.1	185.5	247.5	363.0	564.7	855.2	1162.0
105°	136.0	139.4	145.3	159.2	180.1	213.8	269.6	366.0	528.7	762.3	1035.3
107.5°	168.0	170.3	176.2	191.0	211.0	244.3	295.4	383.2	522.2	710.2	933.1
110°	189.4	191.7	197.5	211.5	232.4	263.8	314.9	396.2	524.1	692.6	882.0



TEST NUMBER: P332669

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	209.9	212.2	218.9	231.9	252.9	284.2	333.5	410.2	529.6	684.2	853.1
115°	239.4	242.9	251.0	262.6	284.7	316.1	362.5	432.3	540.3	679.8	826.2
117.5°	270.0	273.3	280.5	293.3	314.0	346.5	390.7	454.8	551.7	678.6	814.1
120°	290.5	292.8	301.0	313.7	333.5	366.0	410.2	470.6	560.1	678.6	807.6
122.5°	309.1	311.4	319.6	331.4	353.0	384.6	428.8	485.5	568.5	677.7	800.2
125°	333.5	338.1	345.1	357.9	380.0	412.5	454.3	507.8	581.0	676.3	787.8
127.5°	355.1	358.8	367.2	381.8	404.8	437.6	478.0	527.1	591.0	673.7	771.3
130°	367.2	371.8	381.1	398.6	420.6	454.3	493.9	539.2	598.4	672.8	761.1
132.5°	379.3	383.0	395.1	411.6	435.5	467.4	506.9	551.3	604.9	671.9	751.8
135°	396.2	400.9	412.5	432.3	456.7	486.9	525.2	567.1	614.7	670.5	737.9
137.5°	413.2	417.6	430.4	449.2	474.6	503.4	539.2	578.2	620.5	670.2	725.8
140°	425.3	428.8	441.6	461.3	485.7	513.6	548.5	585.6	625.2	669.3	719.3
142.5°	438.3	441.8	453.6	472.5	495.9	522.9	556.8	591.2	628.9	669.3	713.7
145°	456.7	460.2	471.8	488.0	510.1	535.7	565.9	597.3	631.0	667.0	704.2
147.5°	477.3	478.5	488.7	505.5	523.8	546.8	575.2	602.6	632.1	662.8	695.6
150°	490.4	491.5	500.8	514.8	532.2	554.3	579.8	605.4	632.1	660.0	689.1
152.5°	502.4	502.7	512.0	525.0	540.6	560.8	583.6	607.3	630.3	655.4	681.6
155°	519.4	520.6	527.5	539.2	552.0	569.4	589.1	608.9	627.5	648.4	670.5
157.5°	535.9	535.9	542.4	551.5	562.6	576.4	593.1	608.9	624.5	641.2	659.1
160°	546.1	546.1	550.8	558.9	568.2	581.0	594.9	608.9	621.7	635.6	650.7
162.5°	555.4	554.5	558.2	565.4	573.8	583.8	596.8	608.9	618.9	630.0	643.3
165°	565.9	565.9	568.2	574.0	579.8	586.8	597.3	606.6	613.5	621.7	631.0
167.5°	576.4	575.2	576.4	580.8	584.0	589.4	597.0	603.8	608.0	613.3	619.8
170°	581.0	579.8	581.0	584.5	586.8	590.3	596.1	601.9	604.2	607.7	612.4
172.5°	585.6	584.5	584.7	587.3	588.7	591.2	595.2	600.1	600.5	602.1	605.9
175°	590.3	589.1	589.1	590.3	591.5	591.5	593.8	597.3	596.1	596.1	598.4
177.5°	592.4	591.5	590.5	591.5	591.5	591.5	592.4	594.2	592.4	592.4	593.3
180°	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5



TEST NUMBER: P332669

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5	1725.5
2.5°	1719.3	1721.8	1724.3	1725.4	1725.1	1724.9	1724.6	1724.4
5°	1710.1	1713.5	1716.9	1718.3	1717.7	1717.0	1716.4	1715.8
7.5°	1691.1	1693.8	1696.5	1697.7	1697.3	1696.9	1696.5	1696.2
10°	1675.1	1677.6	1680.0	1680.9	1680.3	1679.7	1679.1	1678.5
12.5°	1655.7	1658.4	1661.1	1662.0	1661.2	1660.3	1659.4	1658.6
15°	1618.6	1620.4	1622.3	1622.7	1621.8	1620.9	1620.0	1619.0
17.5°	1576.3	1577.5	1578.6	1578.9	1578.3	1577.7	1577.1	1576.4
20°	1544.8	1545.8	1546.7	1546.8	1546.2	1545.6	1545.0	1544.4
22.5°	1512.0	1513.7	1515.3	1515.6	1514.5	1513.4	1512.3	1511.2
25°	1457.9	1458.2	1458.5	1458.0	1456.8	1455.6	1454.3	1453.1
27.5°	1397.2	1396.4	1395.7	1394.6	1393.0	1391.5	1389.9	1388.4
30°	1355.3	1354.0	1352.8	1351.4	1349.9	1348.3	1346.8	1345.3
32.5°	1312.7	1311.3	1309.8	1308.3	1306.7	1305.2	1303.7	1302.1
35°	1245.6	1243.4	1241.3	1239.4	1237.9	1236.4	1234.8	1233.3
37.5°	1175.2	1172.9	1170.6	1168.4	1166.4	1164.3	1162.3	1160.3
40°	1126.2	1123.1	1120.1	1117.8	1116.2	1114.7	1113.2	1111.6
42.5°	1078.8	1075.2	1071.6	1069.3	1068.3	1067.2	1066.2	1065.2
45°	1005.3	1001.9	998.5	996.4	995.5	994.6	993.6	992.7
47.5°	934.2	930.4	926.6	923.5	921.2	918.8	916.5	914.2
50°	884.6	880.3	876.0	872.9	871.0	869.2	867.4	865.5
52.5°	833.6	829.7	825.9	822.9	820.5	818.2	815.9	813.5
55°	758.6	754.9	751.2	748.5	746.6	744.8	742.9	741.1
57.5°	683.5	680.0	676.5	673.8	672.0	670.3	668.5	666.7
60°	631.9	629.1	626.3	624.2	622.6	621.1	619.6	618.0
62.5°	581.5	578.9	576.4	574.4	572.9	571.3	569.8	568.3
65°	508.2	505.1	502.0	499.7	498.2	496.7	495.1	493.6
67.5°	432.7	429.7	426.8	425.1	424.6	424.2	423.8	423.4
70°	385.0	382.5	380.1	378.4	377.5	376.5	375.6	374.7
72.5°	337.3	335.3	333.4	331.9	331.0	330.1	329.2	328.2
75°	268.5	267.3	266.1	265.3	265.0	264.7	264.4	264.1
77.5°	203.3	203.0	202.6	202.0	201.2	200.4	199.6	198.8
80°	161.9	161.3	160.7	160.2	159.9	159.6	159.3	159.0
82.5°	124.8	124.4	124.1	123.7	123.4	123.1	122.8	122.5
85°	71.9	71.9	71.9	71.7	71.4	71.1	70.8	70.5
87.5°	30.7	31.0	31.2	31.2	31.4	31.7	31.4	31.4
90°	20.9	22.1	23.2	23.2	24.4	25.6	24.4	24.4
92.5°	228.2	171.7	136.7	113.4	99.7	93.4	89.5	89.5
95°	861.0	680.9	525.2	412.5	355.6	319.6	298.6	283.5
97.5°	1272.2	1205.2	1091.6	970.3	886.8	816.9	782.0	757.9
100°	1401.4	1424.6	1367.7	1281.7	1180.6	1109.7	1074.9	1065.6
102.5°	1394.9	1510.1	1526.6	1490.8	1428.8	1377.4	1340.7	1333.3
105°	1301.4	1502.5	1617.5	1665.1	1667.5	1658.2	1641.9	1634.9
107.5°	1168.7	1382.8	1544.8	1648.4	1705.8	1732.3	1743.9	1747.0
110°	1088.8	1289.8	1458.3	1586.1	1668.6	1717.4	1738.4	1748.8



TEST NUMBER: P332669

CATALOG NUMBER: S124DIP-S1020D1205U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1030.2	1208.0	1367.2	1495.0	1588.7	1647.7	1677.0	1694.0
115°	971.4	1114.4	1250.3	1361.9	1453.7	1523.4	1560.6	1569.9
117.5°	942.6	1060.9	1167.8	1262.4	1340.7	1399.3	1436.9	1444.1
120°	929.6	1037.7	1130.6	1213.1	1279.4	1330.5	1360.7	1373.5
122.5°	918.4	1022.8	1107.4	1179.7	1235.7	1279.4	1304.9	1317.7
125°	899.4	999.3	1079.5	1143.4	1189.9	1223.6	1245.7	1252.6
127.5°	876.1	971.7	1051.6	1112.3	1159.0	1189.0	1207.6	1214.5
130°	857.6	949.4	1028.4	1090.0	1137.6	1166.6	1185.2	1192.2
132.5°	838.0	924.3	1001.4	1063.0	1109.7	1142.5	1160.1	1167.1
135°	811.1	886.6	957.5	1015.6	1062.1	1094.6	1113.2	1120.2
137.5°	786.7	850.6	910.3	962.8	1006.3	1038.4	1053.7	1062.1
140°	772.7	827.3	879.6	928.4	969.1	994.7	1010.9	1020.2
142.5°	759.7	807.8	852.7	895.0	931.0	954.7	969.1	975.6
145°	741.4	780.9	815.7	848.3	877.3	897.1	908.7	914.5
147.5°	726.3	757.6	785.5	811.1	832.5	849.4	858.3	860.3
150°	717.0	743.7	766.9	787.8	806.4	821.5	828.5	829.7
152.5°	706.7	729.7	751.1	768.3	784.1	796.4	800.6	801.8
155°	691.4	710.0	727.4	741.4	753.0	762.3	765.8	765.8
157.5°	674.9	690.5	705.1	716.3	725.1	732.1	734.2	734.2
160°	664.7	677.4	690.2	699.5	706.5	713.5	714.6	714.6
162.5°	654.4	665.4	675.4	683.7	688.8	695.8	697.0	696.0
165°	640.3	647.2	655.4	661.2	665.8	670.5	669.3	668.2
167.5°	626.6	631.9	638.4	641.9	644.2	647.2	647.0	646.1
170°	618.2	621.7	626.3	629.8	632.1	633.3	632.1	632.1
172.5°	610.7	613.3	616.1	618.6	620.0	621.2	620.0	618.2
175°	600.8	601.9	604.2	604.2	604.2	606.6	604.2	601.9
177.5°	594.2	595.2	595.2	596.1	595.2	596.1	594.2	592.4
180°	591.5	591.5	591.5	591.5	591.5	591.5	591.5	591.5

(END OF REPORT)