

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: P332696-927

Luminaire Tested: **S124DIP-S1195D810U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332696-927
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-S1195D810U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6345.9 lumens
Efficiency: N/A
Efficacy: 104.5 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: Semi-Direct

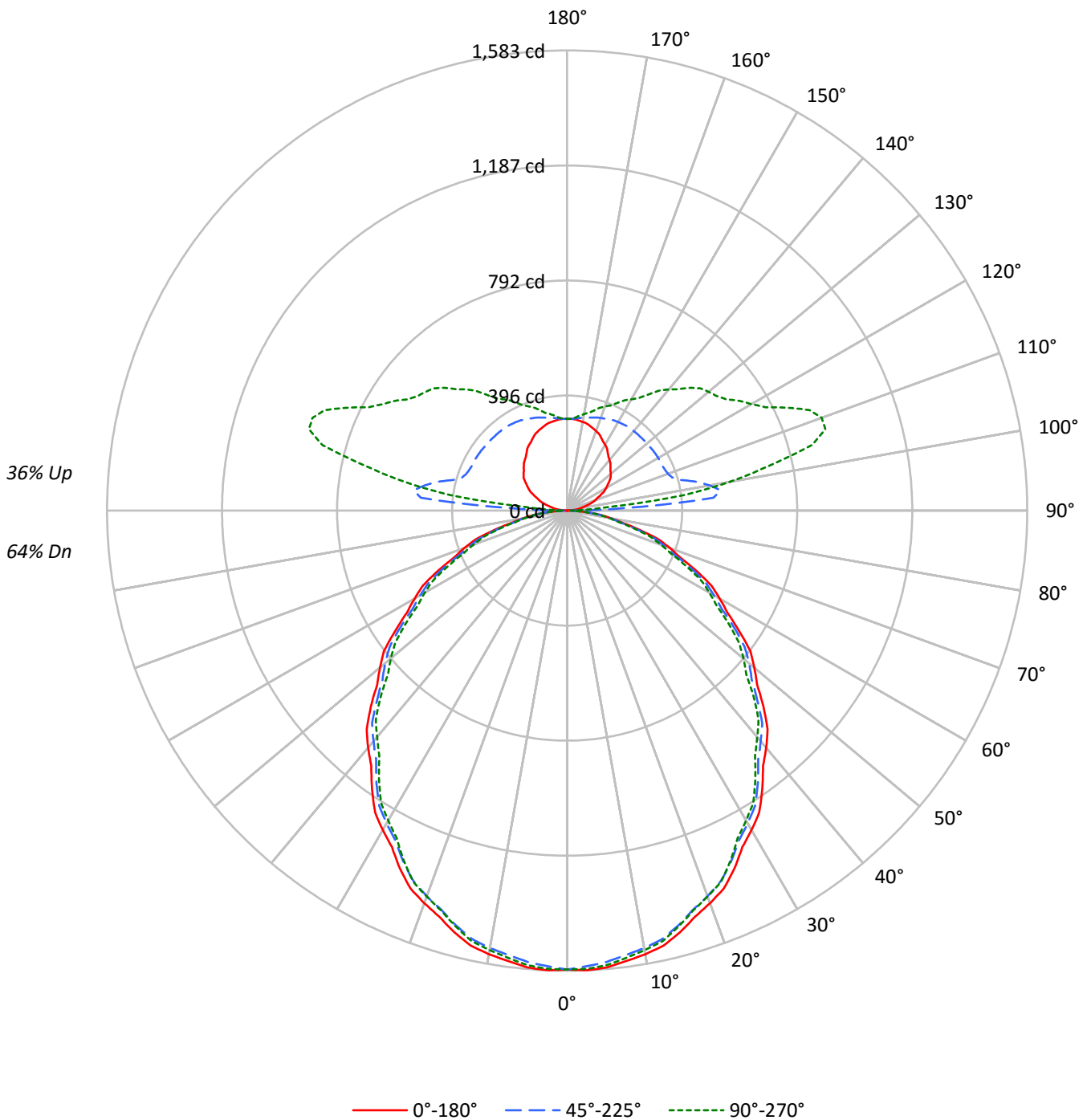
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	101	96	92	89	95	91	87	84	80	77	75	70	68	66	61	59	58	54
2	92	84	78	73	86	79	74	69	70	66	62	61	58	55	54	51	49	45
3	84	74	66	60	78	70	63	58	62	56	52	54	50	47	47	44	42	38
4	77	66	57	51	72	62	55	49	55	49	44	48	44	40	42	39	36	33
5	70	59	50	44	66	55	48	42	49	43	38	44	39	35	38	34	31	28
6	65	53	44	38	61	50	42	37	44	38	34	39	34	31	35	31	28	25
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	32	28	25	22
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	25	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	25	21	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12745	12745	12745
5°	12783	12630	12721
10°	12703	12527	12588
15°	12549	12349	12380
20°	12345	12128	12138
25°	12113	11875	11843
30°	11828	11580	11473
35°	11532	11269	11121
40°	11225	10918	10718
45°	10904	10572	10369
50°	10550	10262	9946
55°	10166	9864	9543
60°	9783	9415	9131
65°	9352	8990	8627
70°	8868	8419	8091
75°	8125	7735	7536
80°	7234	6936	6760
85°	6326	6095	5974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	2.3
10°-20°	418.9	6.6
20°-30°	616.5	9.7
30°-40°	716.7	11.3
40°-50°	716.8	11.3
50°-60°	627.0	9.9
60°-70°	465.6	7.3
70°-80°	264.5	4.2
80°-90°	78.1	1.2
90°-100°	227.7	3.6
100°-110°	474.0	7.5
110°-120°	424.5	6.7
120°-130°	357.1	5.6
130°-140°	297.7	4.7
140°-150°	227.5	3.6
150°-160°	159.9	2.5
160°-170°	94.0	1.5
170°-180°	30.6	0.5
0°-30°	1184.1	18.7
0°-40°	1900.8	30.0
0°-60°	3244.6	51.1
0°-90°	4052.9	63.9
90°-120°	1126.2	17.7
90°-150°	2008.5	31.7
90°-180°	2293.0	36.1
0°-180°	6345.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1579	1579	1579	1579	1579	
5°	1577	1572	1558	1571	1570	150
15°	1502	1496	1478	1484	1481	423
25°	1360	1350	1333	1334	1330	625
35°	1170	1161	1144	1135	1128	731
45°	955	946	926	913	908	736
55°	722	718	701	686	678	647
65°	490	483	471	458	452	485
75°	260	254	248	243	242	277
85°	68	68	66	66	64	75
90°	1	5	11	12	13	5
95°	20	64	505	250	151	23
105°	72	105	406	875	872	77
115°	128	160	362	696	837	127
125°	178	211	360	592	668	158
135°	211	251	357	526	597	163
145°	243	279	356	444	488	153
155°	277	299	346	392	408	128
165°	302	311	331	351	356	85
175°	315	315	318	322	321	30
180°	315	315	315	315	315	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1582.7	1582.1	1581.4	1580.7	1580.0	1578.4	1576.0	1573.5	1571.1	1568.6	1570.8
5°	1577.4	1576.3	1575.2	1574.1	1573.0	1570.8	1567.7	1564.6	1561.5	1558.5	1561.5
7.5°	1562.7	1561.6	1560.5	1559.3	1558.2	1556.0	1552.5	1549.1	1545.7	1542.2	1544.8
10°	1549.6	1548.5	1547.4	1546.2	1545.1	1542.7	1539.1	1535.4	1531.8	1528.1	1530.3
12.5°	1532.4	1531.3	1530.1	1529.0	1527.9	1525.3	1521.5	1517.7	1513.8	1509.9	1512.4
15°	1501.5	1500.4	1499.3	1498.2	1497.0	1494.4	1490.1	1485.9	1481.7	1477.5	1479.2
17.5°	1464.3	1462.9	1461.5	1460.2	1458.7	1456.0	1452.0	1448.0	1444.1	1440.0	1441.1
20°	1437.0	1435.6	1434.2	1432.8	1431.4	1428.5	1424.3	1420.1	1415.9	1411.7	1412.5
22.5°	1407.6	1405.8	1404.0	1402.1	1400.3	1397.2	1393.0	1388.8	1384.6	1380.3	1381.9
25°	1359.9	1357.9	1355.9	1353.9	1351.9	1349.0	1345.0	1341.2	1337.2	1333.2	1333.6
27.5°	1305.2	1303.1	1301.2	1299.1	1297.1	1294.3	1290.6	1287.0	1283.3	1279.6	1279.0
30°	1268.8	1266.5	1264.2	1262.0	1259.8	1256.8	1253.2	1249.5	1245.9	1242.2	1241.1
32.5°	1230.3	1228.3	1226.3	1224.2	1222.2	1219.2	1215.4	1211.5	1207.6	1203.7	1202.4
35°	1170.1	1168.2	1166.2	1164.2	1162.2	1159.3	1155.3	1151.4	1147.5	1143.5	1141.5
37.5°	1106.6	1104.8	1103.0	1101.2	1099.4	1096.4	1092.2	1088.0	1083.7	1079.5	1077.4
40°	1065.1	1062.9	1060.6	1058.4	1056.1	1052.9	1048.7	1044.4	1040.2	1036.0	1033.2
42.5°	1020.6	1019.2	1017.9	1016.5	1015.2	1012.2	1007.5	1002.8	998.1	993.5	990.2
45°	955.1	953.1	951.1	949.1	947.2	944.0	939.4	934.9	930.4	926.0	922.9
47.5°	886.5	885.1	883.8	882.4	881.1	878.4	874.2	870.1	865.9	861.7	858.3
50°	840.0	838.8	837.7	836.5	835.4	832.9	828.9	825.1	821.1	817.1	813.3
52.5°	794.4	793.1	791.7	790.4	789.0	786.2	782.1	777.9	773.8	769.6	766.1
55°	722.3	721.4	720.6	719.8	718.9	716.5	712.6	708.7	704.7	700.8	697.4
57.5°	653.5	652.5	651.6	650.6	649.7	647.2	643.3	639.4	635.6	631.7	628.5
60°	605.9	604.5	603.1	601.7	600.3	597.8	594.1	590.5	586.8	583.1	580.6
62.5°	559.4	558.2	557.0	555.8	554.7	552.2	548.3	544.4	540.5	536.6	534.3
65°	489.6	488.1	486.7	485.3	483.9	481.8	479.0	476.2	473.4	470.6	467.8
67.5°	419.2	418.0	416.6	415.3	414.1	412.0	409.3	406.6	403.9	401.2	398.5
70°	375.7	373.8	371.8	369.8	367.8	365.8	363.5	361.2	358.9	356.7	354.5
72.5°	329.2	327.2	325.2	323.2	321.3	319.4	317.6	315.8	314.0	312.2	310.4
75°	260.5	259.2	257.8	256.4	254.9	253.6	252.2	250.7	249.4	248.0	246.8
77.5°	195.0	194.4	193.8	193.2	192.6	191.6	190.4	189.2	188.0	186.7	186.4
80°	155.6	154.7	153.9	153.0	152.3	151.5	151.0	150.4	149.8	149.2	148.7
82.5°	117.2	116.8	116.4	116.0	115.6	115.3	115.2	115.1	114.9	114.9	114.5
85°	68.3	68.3	68.3	68.3	68.3	68.0	67.5	66.9	66.3	65.8	65.8
87.5°	26.5	26.5	26.6	26.5	26.4	26.1	26.7	26.5	26.5	26.5	26.4
90°	0.6	1.8	3.7	4.4	5.0	5.0	8.6	8.6	9.9	11.2	10.5
92.5°	7.1	10.3	16.1	23.7	32.7	45.6	77.1	125.1	172.0	196.5	163.7
95°	20.4	22.3	28.5	36.5	51.4	77.4	131.3	232.9	381.0	504.9	519.1
97.5°	36.7	36.7	42.0	49.4	62.2	84.0	125.5	209.4	356.6	531.7	652.1
100°	47.1	47.1	51.4	58.9	70.6	90.5	127.0	197.0	323.4	498.0	656.6
102.5°	57.0	58.0	61.8	68.8	80.0	98.9	131.9	193.5	301.0	455.9	619.4
105°	72.5	74.3	77.4	84.8	96.0	114.0	143.7	195.1	281.9	406.3	551.9
107.5°	89.6	90.8	93.9	101.8	112.5	130.2	157.5	204.3	278.4	378.6	497.4
110°	101.0	102.2	105.3	112.7	123.9	140.6	167.9	211.2	279.3	369.2	470.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.9	113.1	116.7	123.7	134.8	151.5	177.8	218.6	282.3	364.7	454.8
115°	127.6	129.4	133.8	140.0	151.8	168.5	193.3	230.4	288.0	362.3	440.4
117.5°	143.9	145.7	149.6	156.4	167.4	184.7	208.3	242.4	294.1	361.7	434.0
120°	154.9	156.1	160.4	167.2	177.8	195.1	218.6	250.9	298.6	361.7	430.5
122.5°	164.8	166.0	170.3	176.7	188.1	205.0	228.5	258.8	303.0	361.2	426.5
125°	177.8	180.2	183.9	190.8	202.6	219.9	242.2	270.7	309.7	360.5	419.9
127.5°	189.3	191.3	195.7	203.5	215.8	233.3	254.8	281.0	315.1	359.2	411.1
130°	195.7	198.2	203.2	212.5	224.3	242.2	263.2	287.4	319.0	358.6	405.8
132.5°	202.2	204.1	210.6	219.4	232.2	249.1	270.2	293.8	322.5	358.1	400.8
135°	211.2	213.7	219.9	230.4	243.4	259.5	280.0	302.3	327.6	357.4	393.3
137.5°	220.3	222.6	229.4	239.5	252.9	268.3	287.4	308.2	330.7	357.3	386.9
140°	226.7	228.5	235.4	245.9	258.9	273.8	292.4	312.2	333.3	356.8	383.4
142.5°	233.6	235.5	241.9	251.8	264.4	278.8	296.8	315.1	335.3	356.8	380.5
145°	243.4	245.3	251.5	260.2	272.0	285.6	301.7	318.4	336.4	355.5	375.3
147.5°	254.4	255.1	260.5	269.4	279.2	291.5	306.7	321.2	337.0	353.3	370.8
150°	261.4	262.1	267.0	274.4	283.7	295.5	309.1	322.7	337.0	351.8	367.3
152.5°	267.8	268.0	272.9	279.9	288.2	299.0	311.1	323.7	336.0	349.4	363.4
155°	276.9	277.5	281.2	287.4	294.2	303.5	314.0	324.6	334.5	345.6	357.4
157.5°	285.7	285.7	289.1	294.0	299.9	307.2	316.2	324.6	332.9	341.8	351.3
160°	291.1	291.1	293.6	297.9	302.9	309.7	317.1	324.6	331.4	338.8	346.9
162.5°	296.1	295.6	297.5	301.4	305.9	311.2	318.1	324.6	329.9	335.9	342.9
165°	301.7	301.7	302.9	306.0	309.1	312.8	318.4	323.4	327.1	331.4	336.4
167.5°	307.2	306.7	307.2	309.6	311.3	314.2	318.3	321.9	324.1	326.9	330.4
170°	309.7	309.1	309.7	311.6	312.8	314.7	317.7	320.8	322.1	323.9	326.5
172.5°	312.2	311.6	311.7	313.1	313.8	315.1	317.3	319.9	320.1	321.0	323.0
175°	314.7	314.0	314.0	314.7	315.3	315.3	316.6	318.4	317.7	317.7	319.0
177.5°	315.8	315.3	314.8	315.3	315.3	315.3	315.8	316.8	315.8	315.8	316.2
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1573.0	1575.3	1577.6	1578.6	1578.3	1578.1	1577.9	1577.6
5°	1564.6	1567.7	1570.8	1572.1	1571.5	1571.0	1570.4	1569.8
7.5°	1547.2	1549.7	1552.1	1553.2	1552.9	1552.5	1552.2	1551.9
10°	1532.6	1534.9	1537.1	1537.9	1537.4	1536.8	1536.2	1535.6
12.5°	1514.8	1517.3	1519.8	1520.6	1519.8	1519.0	1518.2	1517.4
15°	1480.8	1482.6	1484.2	1484.6	1483.8	1483.0	1482.1	1481.3
17.5°	1442.2	1443.3	1444.3	1444.5	1444.0	1443.4	1442.9	1442.3
20°	1413.4	1414.2	1415.1	1415.2	1414.7	1414.1	1413.6	1412.9
22.5°	1383.4	1384.9	1386.4	1386.6	1385.7	1384.7	1383.6	1382.6
25°	1333.9	1334.1	1334.4	1334.0	1332.8	1331.7	1330.6	1329.5
27.5°	1278.3	1277.6	1276.9	1275.9	1274.5	1273.1	1271.7	1270.3
30°	1239.9	1238.8	1237.7	1236.4	1235.0	1233.7	1232.2	1230.8
32.5°	1201.0	1199.7	1198.3	1197.0	1195.6	1194.1	1192.8	1191.4
35°	1139.6	1137.7	1135.7	1134.0	1132.6	1131.2	1129.7	1128.4
37.5°	1075.2	1073.1	1071.0	1069.0	1067.1	1065.2	1063.4	1061.5
40°	1030.4	1027.5	1024.8	1022.6	1021.3	1019.9	1018.4	1017.0
42.5°	987.0	983.7	980.5	978.3	977.4	976.4	975.5	974.5
45°	919.8	916.7	913.6	911.6	910.8	909.9	909.1	908.2
47.5°	854.8	851.3	847.8	844.9	842.8	840.7	838.5	836.4
50°	809.3	805.3	801.5	798.6	796.9	795.3	793.5	791.9
52.5°	762.6	759.1	755.7	752.9	750.8	748.6	746.5	744.3
55°	694.0	690.7	687.3	684.8	683.1	681.4	679.7	678.0
57.5°	625.3	622.1	618.9	616.5	614.9	613.2	611.6	610.0
60°	578.1	575.6	573.1	571.1	569.7	568.2	566.9	565.5
62.5°	532.0	529.7	527.4	525.5	524.1	522.7	521.3	519.9
65°	464.9	462.2	459.3	457.2	455.8	454.4	453.0	451.6
67.5°	395.9	393.2	390.5	388.9	388.5	388.1	387.7	387.3
70°	352.2	350.0	347.7	346.2	345.3	344.5	343.6	342.8
72.5°	308.6	306.8	305.0	303.6	302.9	302.0	301.1	300.3
75°	245.7	244.5	243.4	242.7	242.5	242.2	241.9	241.6
77.5°	186.0	185.7	185.4	184.8	184.1	183.4	182.6	181.9
80°	148.1	147.6	147.0	146.6	146.3	146.0	145.8	145.4
82.5°	114.2	113.8	113.5	113.2	112.9	112.6	112.3	112.1
85°	65.8	65.8	65.8	65.7	65.4	65.0	64.8	64.5
87.5°	26.5	26.6	26.8	26.8	26.9	27.0	26.9	26.9
90°	11.2	11.8	12.4	12.4	13.0	13.6	13.0	13.0
92.5°	121.7	91.6	72.9	60.4	53.2	49.8	47.7	47.7
95°	459.0	363.0	280.0	219.9	189.6	170.3	159.2	151.1
97.5°	678.1	642.5	581.9	517.2	472.8	435.5	416.8	404.0
100°	747.0	759.4	729.0	683.3	629.3	591.5	573.0	568.0
102.5°	743.5	805.0	813.8	794.7	761.7	734.3	714.7	710.7
105°	693.8	800.9	862.2	887.6	888.9	883.9	875.3	871.6
107.5°	623.1	737.1	823.5	878.7	909.3	923.4	929.6	931.2
110°	580.4	687.5	777.4	845.5	889.5	915.5	926.7	932.2



TEST NUMBER: P332696-927

CATALOG NUMBER: S124DIP-S1195D810U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	549.2	644.0	728.8	796.9	846.8	878.4	894.0	903.0
115°	517.8	594.1	666.5	726.0	774.9	812.1	831.9	836.9
117.5°	502.5	565.5	622.5	673.0	714.7	745.9	766.0	769.8
120°	495.5	553.2	602.7	646.7	682.0	709.2	725.3	732.1
122.5°	489.6	545.2	590.3	628.8	658.7	682.0	695.6	702.4
125°	479.4	532.7	575.4	609.5	634.3	652.3	664.0	667.7
127.5°	467.1	517.9	560.5	592.9	617.8	633.8	643.7	647.5
130°	457.2	506.0	548.2	581.0	606.4	621.9	631.8	635.6
132.5°	446.7	492.7	533.9	566.6	591.5	609.0	618.5	622.2
135°	432.4	472.6	510.4	541.4	566.2	583.5	593.4	597.1
137.5°	419.4	453.4	485.3	513.3	536.4	553.5	561.7	566.2
140°	411.9	441.0	468.9	495.0	516.6	530.2	538.9	543.8
142.5°	405.0	430.6	454.6	477.1	496.3	508.9	516.6	520.1
145°	395.2	416.3	434.8	452.2	467.7	478.2	484.4	487.5
147.5°	387.1	403.9	418.7	432.4	443.8	452.8	457.5	458.6
150°	382.1	396.4	408.8	419.9	429.9	437.9	441.6	442.3
152.5°	376.8	389.0	400.4	409.6	418.0	424.5	426.7	427.4
155°	368.5	378.5	387.8	395.2	401.4	406.3	408.2	408.2
157.5°	359.7	368.0	375.9	381.8	386.5	390.2	391.3	391.3
160°	354.3	361.2	368.0	372.9	376.6	380.3	381.0	381.0
162.5°	348.9	354.7	360.0	364.5	367.2	370.9	371.5	371.1
165°	341.3	345.0	349.4	352.4	354.9	357.4	356.8	356.2
167.5°	334.0	336.8	340.3	342.1	343.4	345.0	344.9	344.4
170°	329.5	331.4	333.9	335.7	337.0	337.5	337.0	337.0
172.5°	325.6	326.9	328.4	329.8	330.5	331.1	330.5	329.5
175°	320.3	320.8	322.1	322.1	322.1	323.4	322.1	320.8
177.5°	316.8	317.3	317.3	317.7	317.3	317.7	316.8	315.8
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3

(END OF REPORT)