

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: P332804-840

Luminaire Tested: **S124DIW-S795D1560U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332804-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D1560U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8908.4 lumens
Efficiency: N/A
Efficacy: 130.8 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-Indirect

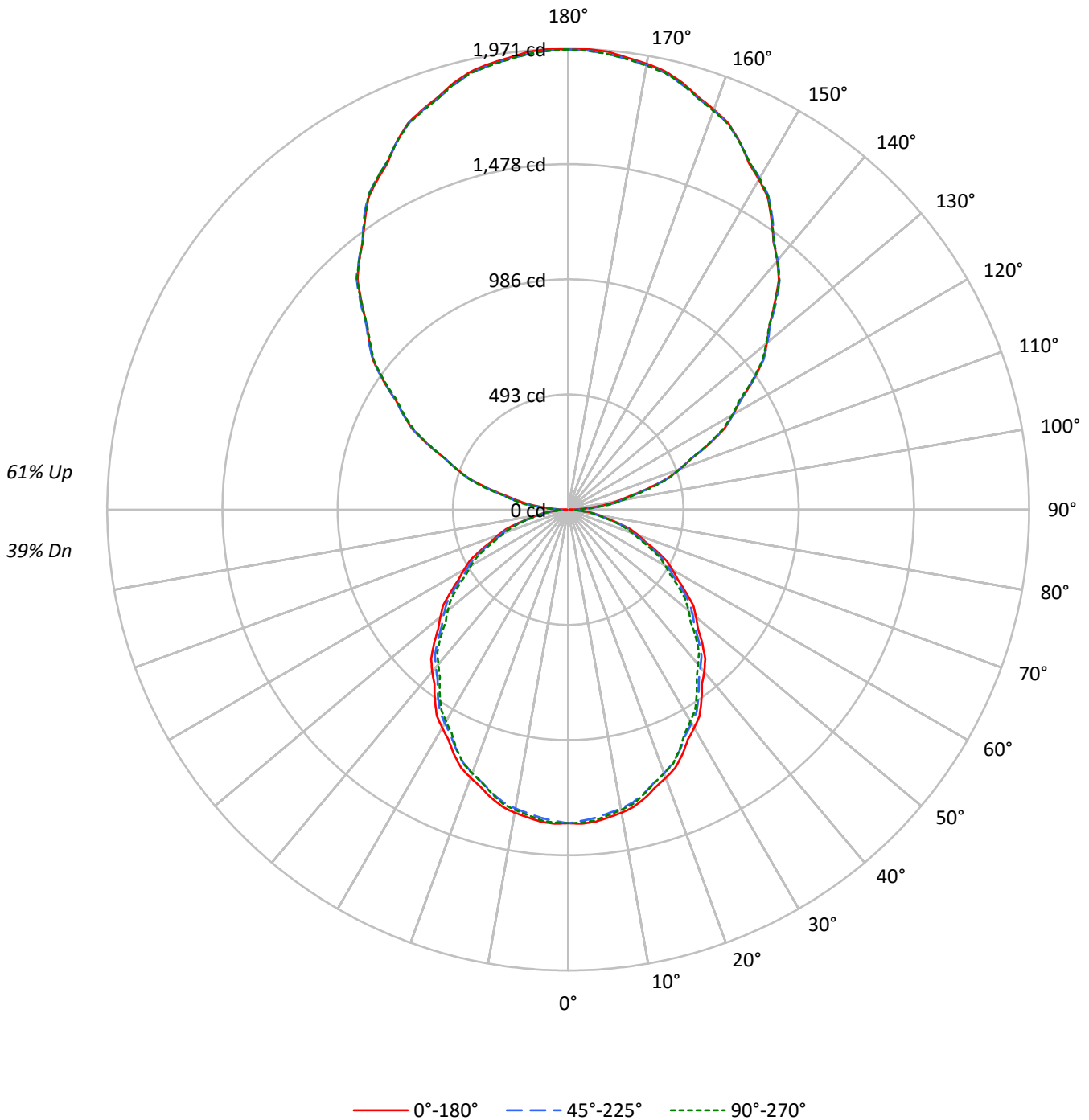
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332804-840

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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	0
RCR																		
0	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	86	83	79	77	67	65	63	53	52	50	40	39	38	32
2	87	79	73	68	78	72	67	63	59	55	52	47	44	42	35	34	32	27
3	79	70	63	57	71	64	57	52	52	48	44	41	38	36	31	29	28	23
4	72	62	54	48	65	56	50	44	46	41	37	37	33	30	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	23	21	17
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	20	18	15
7	56	44	36	31	51	41	34	29	34	28	25	27	23	20	21	18	16	13
8	52	40	33	27	47	37	30	25	31	25	22	25	21	18	19	16	14	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	33	26	22	41	31	24	20	26	21	17	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10823	10823	10823
5°	10855	10724	10802
10°	10787	10637	10690
15°	10657	10486	10513
20°	10483	10299	10308
25°	10286	10085	10056
30°	10043	9833	9743
35°	9792	9570	9443
40°	9531	9271	9101
45°	9259	8977	8805
50°	8959	8715	8446
55°	8633	8376	8103
60°	8307	7995	7753
65°	7941	7633	7324
70°	7530	7152	6871
75°	6903	6569	6400
80°	6141	5890	5742
85°	5372	5169	5067



TEST NUMBER: P332804-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	1.4
10°-20°	355.7	4.0
20°-30°	523.5	5.9
30°-40°	608.6	6.8
40°-50°	608.7	6.8
50°-60°	532.4	6.0
60°-70°	395.4	4.4
70°-80°	224.6	2.5
80°-90°	70.7	0.8
90°-100°	129.9	1.5
100°-110°	384.7	4.3
110°-120°	652.9	7.3
120°-130°	861.0	9.7
130°-140°	966.9	10.9
140°-150°	950.1	10.7
150°-160°	799.1	9.0
160°-170°	531.7	6.0
170°-180°	186.2	2.1
0°-30°	1005.5	11.3
0°-40°	1614.1	18.1
0°-60°	2755.2	30.9
0°-90°	3445.9	38.7
90°-120°	1167.5	13.1
90°-150°	3945.5	44.3
90°-180°	5463.0	61.3
0°-180°	8908.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1340	1335	1323	1334	1333	127
15°	1275	1270	1255	1260	1258	359
25°	1155	1147	1132	1133	1129	531
35°	994	986	971	964	958	621
45°	811	803	786	775	771	625
55°	613	609	595	583	576	549
65°	416	410	400	389	383	411
75°	221	216	211	206	205	235
85°	58	58	56	56	55	64
90°	4	21	34	42	46	9
95°	91	105	116	120	120	102
105°	355	357	362	367	372	376
115°	664	664	661	659	658	654
125°	967	967	965	962	959	861
135°	1247	1256	1256	1253	1249	964
145°	1515	1521	1523	1521	1517	948
155°	1736	1736	1734	1740	1734	798
165°	1890	1885	1882	1890	1885	532
175°	1966	1958	1957	1966	1957	187
180°	1969	1969	1969	1969	1969	



TEST NUMBER: P332804-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1344.0	1343.4	1342.8	1342.3	1341.7	1340.4	1338.3	1336.2	1334.0	1332.0	1333.8
5°	1339.5	1338.6	1337.6	1336.7	1335.6	1333.8	1331.2	1328.6	1326.0	1323.3	1326.0
7.5°	1327.1	1326.1	1325.1	1324.1	1323.2	1321.3	1318.4	1315.5	1312.5	1309.6	1311.7
10°	1315.9	1314.9	1313.9	1313.0	1312.0	1310.0	1306.9	1303.8	1300.7	1297.6	1299.5
12.5°	1301.2	1300.3	1299.3	1298.4	1297.5	1295.3	1292.0	1288.7	1285.5	1282.1	1284.2
15°	1275.1	1274.0	1273.1	1272.1	1271.2	1269.0	1265.4	1261.8	1258.2	1254.7	1256.1
17.5°	1243.4	1242.2	1241.0	1239.9	1238.7	1236.4	1233.0	1229.6	1226.2	1222.8	1223.8
20°	1220.2	1219.0	1217.9	1216.7	1215.5	1213.0	1209.5	1205.9	1202.3	1198.8	1199.5
22.5°	1195.4	1193.8	1192.1	1190.6	1189.0	1186.5	1182.9	1179.3	1175.7	1172.2	1173.5
25°	1154.7	1153.1	1151.3	1149.7	1148.0	1145.5	1142.2	1138.8	1135.5	1132.2	1132.4
27.5°	1108.3	1106.6	1104.9	1103.2	1101.5	1099.0	1095.9	1092.9	1089.7	1086.6	1086.0
30°	1077.4	1075.5	1073.6	1071.7	1069.8	1067.2	1064.1	1061.1	1057.9	1054.8	1053.9
32.5°	1044.7	1043.0	1041.3	1039.6	1037.8	1035.3	1032.1	1028.7	1025.5	1022.2	1021.1
35°	993.6	991.9	990.3	988.6	986.9	984.4	981.1	977.8	974.4	971.1	969.4
37.5°	939.7	938.2	936.6	935.1	933.5	931.0	927.5	923.8	920.3	916.7	914.8
40°	904.4	902.5	900.6	898.7	896.8	894.0	890.5	886.9	883.3	879.7	877.4
42.5°	866.7	865.5	864.3	863.2	862.0	859.5	855.6	851.6	847.6	843.6	840.9
45°	811.0	809.3	807.7	806.0	804.4	801.5	797.8	794.0	790.1	786.3	783.7
47.5°	752.8	751.6	750.5	749.3	748.2	745.9	742.4	738.8	735.3	731.7	728.7
50°	713.3	712.3	711.3	710.3	709.4	707.3	704.0	700.6	697.2	693.9	690.5
52.5°	674.6	673.5	672.3	671.2	669.9	667.6	664.1	660.6	657.0	653.5	650.6
55°	613.4	612.6	611.9	611.2	610.5	608.4	605.1	601.8	598.4	595.1	592.2
57.5°	554.9	554.1	553.3	552.5	551.7	549.6	546.3	543.0	539.8	536.4	533.7
60°	514.5	513.3	512.1	511.0	509.8	507.6	504.5	501.4	498.3	495.2	493.0
62.5°	475.0	474.0	473.0	472.0	471.0	468.9	465.5	462.2	459.0	455.7	453.7
65°	415.7	414.5	413.3	412.1	410.9	409.1	406.8	404.3	401.9	399.6	397.2
67.5°	356.0	354.9	353.8	352.6	351.6	349.9	347.6	345.3	343.1	340.7	338.4
70°	319.0	317.4	315.7	314.0	312.4	310.5	308.6	306.7	304.8	303.0	301.0
72.5°	279.5	277.8	276.2	274.5	272.8	271.2	269.7	268.1	266.6	265.1	263.6
75°	221.3	220.0	218.9	217.7	216.5	215.3	214.1	212.9	211.8	210.6	209.5
77.5°	165.6	165.1	164.6	164.1	163.5	162.8	161.7	160.7	159.6	158.5	158.2
80°	132.1	131.4	130.7	130.0	129.3	128.7	128.2	127.7	127.2	126.7	126.2
82.5°	99.5	99.2	98.8	98.5	98.2	98.0	97.9	97.8	97.7	97.6	97.3
85°	58.0	58.0	58.0	58.0	58.0	57.8	57.3	56.9	56.4	55.8	55.8
87.5°	23.2	23.8	24.3	24.9	25.4	26.0	26.3	26.7	27.0	27.4	27.8
90°	4.5	8.3	12.0	15.8	19.5	22.7	25.3	28.1	30.8	33.5	35.5
92.5°	32.6	36.9	41.1	45.3	49.7	52.7	54.6	56.6	58.4	60.3	61.5
95°	91.4	94.4	97.5	100.5	103.5	106.2	108.7	111.0	113.4	115.7	116.7
97.5°	159.6	162.0	164.4	166.9	169.4	172.0	174.7	177.4	180.3	183.0	184.2
100°	213.2	214.5	215.9	217.2	218.6	220.8	223.9	226.9	229.9	233.0	233.7
102.5°	269.2	269.7	270.3	270.8	271.4	273.1	275.8	278.6	281.3	284.2	285.1
105°	354.8	355.2	355.5	355.8	356.2	357.0	358.3	359.7	361.0	362.4	363.5
107.5°	444.6	445.0	445.5	445.9	446.3	446.6	446.8	447.0	447.2	447.4	448.3
110°	505.5	506.2	506.9	507.6	508.3	508.5	508.1	507.8	507.4	507.1	506.3



TEST NUMBER: P332804-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	568.9	569.1	569.2	569.3	569.5	569.2	568.6	567.9	567.3	566.7	566.6
115°	663.9	663.9	663.9	663.9	663.9	663.6	662.9	662.2	661.6	660.9	660.6
117.5°	753.5	753.7	754.0	754.3	754.6	754.5	754.0	753.5	753.0	752.6	751.3
120°	813.1	814.5	815.9	817.2	818.5	818.7	817.7	816.7	815.7	814.7	812.9
122.5°	875.3	875.8	876.4	876.9	877.4	877.5	877.0	876.5	876.1	875.6	874.4
125°	966.9	966.9	966.9	966.9	966.9	966.7	966.4	966.0	965.7	965.4	964.7
127.5°	1050.1	1051.1	1052.1	1053.1	1054.1	1054.4	1053.8	1053.3	1052.8	1052.2	1051.5
130°	1108.5	1109.5	1110.5	1111.6	1112.6	1113.1	1113.1	1113.1	1113.1	1113.1	1112.5
132.5°	1168.2	1169.0	1169.7	1170.4	1171.2	1171.4	1171.1	1170.9	1170.6	1170.3	1169.7
135°	1247.1	1249.1	1251.1	1253.2	1255.3	1256.3	1256.3	1256.3	1256.3	1256.3	1255.6
137.5°	1333.0	1333.9	1334.8	1335.8	1336.8	1337.6	1338.1	1338.6	1339.2	1339.7	1338.8
140°	1390.3	1390.9	1391.6	1392.3	1392.9	1393.3	1393.3	1393.3	1393.3	1393.3	1392.9
142.5°	1442.6	1443.3	1444.0	1444.6	1445.3	1445.5	1445.2	1445.0	1444.7	1444.4	1444.4
145°	1515.1	1516.4	1517.8	1519.1	1520.6	1521.4	1521.7	1522.1	1522.4	1522.7	1522.4
147.5°	1587.0	1588.6	1590.2	1591.9	1593.5	1594.2	1593.9	1593.6	1593.4	1593.1	1592.8
150°	1630.8	1632.1	1633.6	1634.9	1636.3	1636.9	1636.9	1636.9	1636.9	1636.9	1636.9
152.5°	1672.2	1673.0	1673.9	1674.7	1675.5	1676.1	1676.3	1676.6	1676.9	1677.1	1677.9
155°	1735.9	1735.9	1735.9	1735.9	1735.9	1735.8	1735.4	1735.0	1734.7	1734.3	1735.8
157.5°	1789.5	1788.9	1788.3	1787.7	1787.1	1786.8	1786.7	1786.6	1786.6	1786.5	1787.5
160°	1821.2	1820.8	1820.5	1820.2	1819.8	1819.5	1819.2	1818.8	1818.5	1818.2	1819.2
162.5°	1850.4	1849.6	1848.7	1847.8	1846.8	1846.2	1845.9	1845.6	1845.2	1844.9	1846.7
165°	1889.7	1888.6	1887.6	1886.6	1885.6	1884.8	1884.1	1883.4	1882.8	1882.1	1884.1
167.5°	1919.9	1918.4	1917.0	1915.6	1914.2	1913.5	1913.6	1913.6	1913.7	1913.8	1915.8
170°	1936.9	1935.2	1933.5	1931.8	1930.2	1929.4	1929.8	1930.2	1930.5	1930.8	1932.8
172.5°	1949.0	1947.6	1946.2	1944.8	1943.4	1942.7	1942.8	1942.9	1942.9	1943.0	1945.3
175°	1965.8	1964.1	1962.5	1960.8	1959.0	1958.0	1957.7	1957.3	1957.0	1956.7	1959.0
177.5°	1971.3	1969.9	1968.6	1967.2	1965.9	1965.2	1965.2	1965.2	1965.2	1965.2	1967.1
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8



TEST NUMBER: P332804-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1335.7	1337.7	1339.6	1340.5	1340.3	1340.1	1339.9	1339.7
5°	1328.6	1331.2	1333.8	1334.9	1334.4	1334.0	1333.5	1333.0
7.5°	1313.8	1316.0	1318.0	1318.9	1318.7	1318.4	1318.1	1317.8
10°	1301.4	1303.3	1305.3	1306.0	1305.5	1304.9	1304.5	1304.0
12.5°	1286.4	1288.4	1290.5	1291.2	1290.6	1289.9	1289.2	1288.6
15°	1257.5	1258.9	1260.3	1260.7	1260.0	1259.3	1258.6	1257.9
17.5°	1224.7	1225.6	1226.5	1226.7	1226.2	1225.7	1225.3	1224.8
20°	1200.2	1200.9	1201.6	1201.7	1201.2	1200.8	1200.3	1199.8
22.5°	1174.7	1176.0	1177.3	1177.5	1176.6	1175.8	1174.9	1174.1
25°	1132.7	1132.9	1133.2	1132.8	1131.9	1130.8	1129.9	1128.9
27.5°	1085.5	1084.9	1084.3	1083.5	1082.3	1081.1	1079.8	1078.6
30°	1052.9	1052.0	1051.0	1050.0	1048.7	1047.5	1046.3	1045.2
32.5°	1019.9	1018.8	1017.6	1016.4	1015.2	1014.0	1012.8	1011.7
35°	967.8	966.0	964.3	962.9	961.7	960.6	959.4	958.2
37.5°	913.0	911.2	909.5	907.8	906.2	904.6	903.0	901.4
40°	874.9	872.6	870.2	868.4	867.2	866.1	864.8	863.6
42.5°	838.1	835.4	832.5	830.8	830.0	829.2	828.4	827.6
45°	781.0	778.4	775.8	774.2	773.4	772.6	771.9	771.2
47.5°	725.8	722.9	719.8	717.5	715.7	713.9	712.1	710.2
50°	687.2	683.9	680.5	678.1	676.7	675.3	673.9	672.5
52.5°	647.6	644.6	641.7	639.3	637.5	635.7	633.9	632.1
55°	589.4	586.5	583.6	581.5	580.1	578.7	577.1	575.7
57.5°	531.0	528.3	525.5	523.5	522.1	520.7	519.4	518.0
60°	490.9	488.8	486.6	484.9	483.7	482.5	481.3	480.2
62.5°	451.7	449.8	447.9	446.3	445.0	443.8	442.7	441.5
65°	394.9	392.4	390.0	388.3	387.1	385.9	384.7	383.4
67.5°	336.2	333.9	331.5	330.2	329.9	329.6	329.2	328.9
70°	299.1	297.2	295.3	294.0	293.3	292.6	291.9	291.1
72.5°	262.1	260.5	259.0	257.9	257.1	256.4	255.7	255.0
75°	208.6	207.6	206.7	206.1	205.9	205.6	205.4	205.2
77.5°	157.9	157.6	157.4	156.9	156.3	155.7	155.1	154.5
80°	125.8	125.3	124.8	124.5	124.2	124.0	123.8	123.5
82.5°	96.9	96.6	96.3	96.1	95.9	95.6	95.4	95.1
85°	55.8	55.8	55.8	55.7	55.5	55.2	55.0	54.7
87.5°	28.2	28.6	29.0	29.2	29.4	29.5	29.6	29.8
90°	37.6	39.6	41.6	43.0	43.6	44.3	45.0	45.6
92.5°	62.7	63.9	65.1	65.9	66.3	66.8	67.2	67.6
95°	117.8	118.8	119.8	120.3	120.3	120.3	120.3	120.3
97.5°	185.5	186.7	187.9	188.5	188.5	188.5	188.5	188.5
100°	234.3	235.0	235.7	236.0	236.0	236.0	236.0	236.0
102.5°	286.0	287.0	287.9	288.5	288.8	289.1	289.3	289.6
105°	364.5	365.5	366.5	367.5	368.5	369.5	370.5	371.5
107.5°	449.3	450.2	451.2	451.6	451.5	451.5	451.4	451.3
110°	505.7	505.0	504.3	504.5	505.5	506.5	507.6	508.6



TEST NUMBER: P332804-840

CATALOG NUMBER: S124DIW-S795D1560U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	566.4	566.3	566.2	566.2	566.4	566.6	566.8	567.0
115°	660.1	659.8	659.5	659.1	658.8	658.5	658.1	657.8
117.5°	750.2	749.1	747.9	747.0	746.3	745.7	745.0	744.3
120°	811.2	809.6	807.9	807.4	808.1	808.7	809.4	810.1
122.5°	873.2	872.1	871.0	869.8	868.6	867.4	866.2	864.9
125°	964.0	963.4	962.7	962.0	961.3	960.7	960.0	959.3
127.5°	1050.9	1050.2	1049.5	1048.8	1048.3	1047.8	1047.2	1046.7
130°	1111.8	1111.1	1110.3	1109.3	1108.0	1106.7	1105.3	1104.0
132.5°	1169.0	1168.3	1167.6	1167.0	1166.5	1166.0	1165.4	1164.9
135°	1254.9	1254.3	1253.5	1252.6	1251.6	1250.6	1249.6	1248.6
137.5°	1338.0	1337.1	1336.2	1335.8	1336.1	1336.3	1336.5	1336.7
140°	1392.6	1392.3	1391.9	1391.6	1391.3	1390.9	1390.6	1390.3
142.5°	1444.3	1444.2	1444.2	1444.1	1444.0	1444.0	1443.9	1443.8
145°	1522.1	1521.7	1521.4	1520.7	1519.6	1518.6	1517.6	1516.6
147.5°	1592.6	1592.3	1592.0	1591.6	1591.3	1591.0	1590.6	1590.3
150°	1636.9	1636.9	1636.9	1636.8	1636.4	1636.1	1635.8	1635.4
152.5°	1678.7	1679.5	1680.3	1680.3	1679.4	1678.6	1677.7	1676.8
155°	1737.1	1738.4	1739.8	1739.8	1738.4	1737.1	1735.8	1734.3
157.5°	1788.5	1789.5	1790.5	1790.4	1789.3	1788.2	1787.0	1785.8
160°	1820.2	1821.2	1822.2	1821.8	1820.2	1818.5	1816.7	1815.0
162.5°	1848.6	1850.4	1852.2	1852.3	1850.6	1849.0	1847.2	1845.5
165°	1886.1	1888.1	1890.2	1890.6	1889.2	1887.8	1886.4	1885.1
167.5°	1917.8	1919.9	1921.9	1921.9	1919.8	1917.6	1915.5	1913.4
170°	1934.9	1936.9	1938.9	1938.7	1936.4	1934.0	1931.7	1929.2
172.5°	1947.6	1949.8	1952.2	1952.2	1949.7	1947.4	1945.0	1942.7
175°	1961.5	1963.8	1966.2	1966.2	1963.8	1961.5	1959.0	1956.7
177.5°	1969.0	1970.9	1972.8	1972.7	1970.4	1968.3	1966.2	1964.0
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8

(END OF REPORT)