

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: P332702-840

Luminaire Tested: **S124DIP-S1195D1035U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332702-840
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-S1195D1035U840-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8643.7 lumens
Efficiency: N/A
Efficacy: 129.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

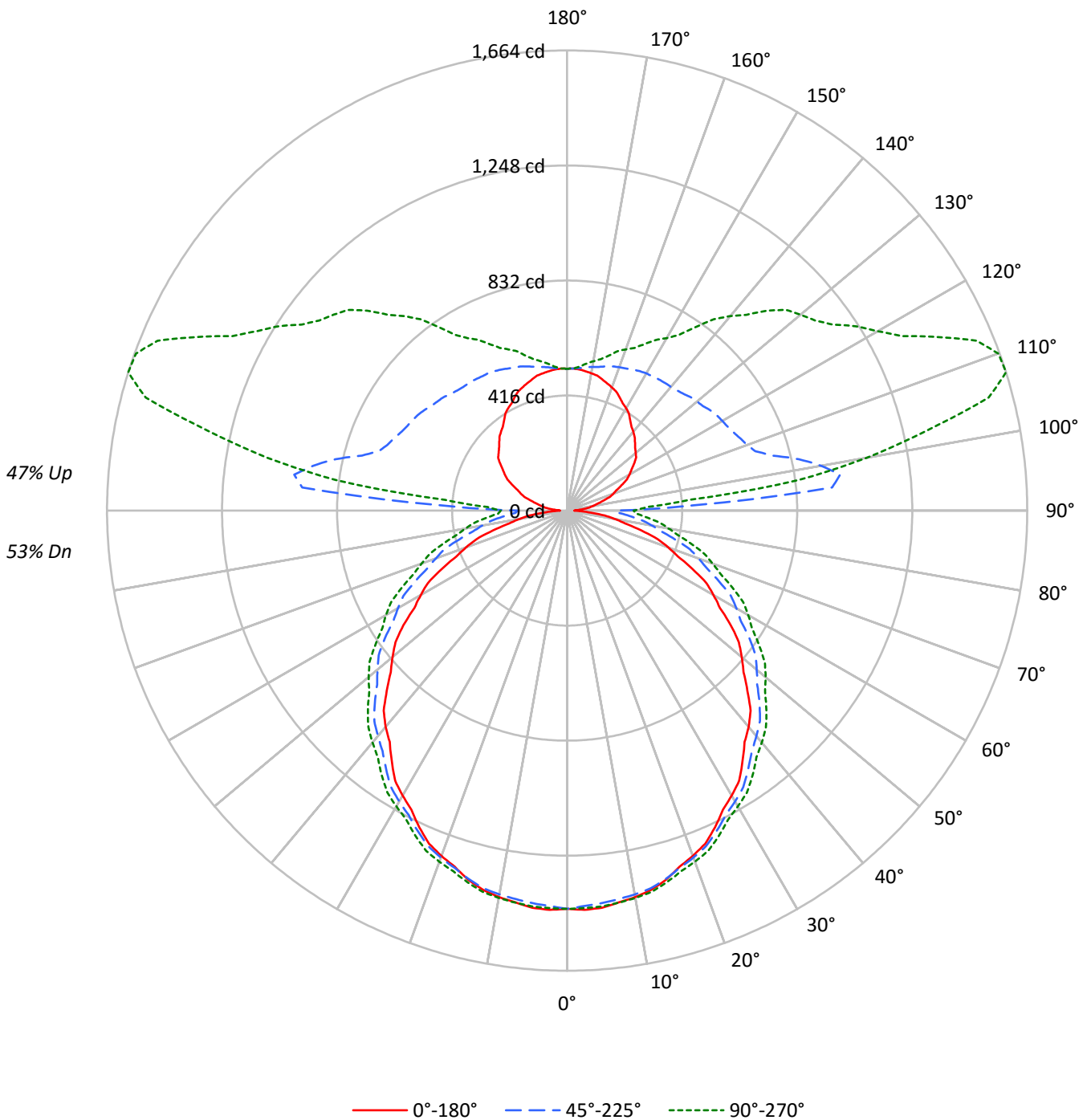
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	53
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	49	47	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	43	41	39	34
3	80	70	62	56	74	65	58	53	55	50	46	46	42	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	19	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	17	21	18	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11626	11626	11626
5°	11661	11362	11394
10°	11590	11176	11167
15°	11486	10961	10900
20°	11330	10723	10641
25°	11153	10457	10356
30°	10961	10193	10063
35°	10745	9921	9805
40°	10573	9663	9538
45°	10316	9426	9309
50°	10098	9151	9066
55°	9875	8894	8781
60°	9525	8563	8521
65°	9141	8210	8201
70°	8676	7806	7830
75°	8028	7363	7494
80°	7309	6935	7163
85°	6389	6559	6968



TEST NUMBER: P332702-840

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	1.6
10°-20°	390.7	4.5
20°-30°	590.8	6.8
30°-40°	714.8	8.3
40°-50°	755.7	8.7
50°-60°	711.2	8.2
60°-70°	590.1	6.8
70°-80°	414.5	4.8
80°-90°	237.1	2.7
90°-100°	509.8	5.9
100°-110°	874.4	10.1
110°-120°	760.1	8.8
120°-130°	620.2	7.2
130°-140°	501.5	5.8
140°-150°	373.6	4.3
150°-160°	260.2	3.0
160°-170°	153.1	1.8
170°-180°	49.8	0.6
0°-30°	1117.8	12.9
0°-40°	1832.6	21.2
0°-60°	3299.5	38.2
0°-90°	4541.1	52.5
90°-120°	2144.2	24.8
90°-150°	3639.5	42.1
90°-180°	4103.0	47.5
0°-180°	8643.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1442	1436	1426	1438	1437	137
15°	1382	1383	1379	1392	1392	389
25°	1264	1274	1279	1296	1298	582
35°	1106	1125	1142	1163	1169	692
45°	922	953	984	1010	1019	713
55°	722	757	805	836	847	643
65°	500	552	606	645	660	495
75°	277	338	405	448	464	295
85°	85	153	226	272	290	91
90°	27	99	178	225	240	19
95°	54	180	962	589	444	54
105°	132	219	768	1569	1578	142
115°	217	287	666	1243	1485	216
125°	296	351	632	1039	1172	264
135°	347	413	596	895	1022	269
145°	398	454	579	731	810	250
155°	451	486	563	637	664	208
165°	491	506	539	571	580	139
175°	512	513	517	524	522	49
180°	513	513	513	513	513	



TEST NUMBER: P332702-840

CATALOG NUMBER: S124DIP-S1195D1035U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1445.2	1444.3	1443.5	1442.6	1441.8	1440.2	1437.8	1435.6	1433.3	1431.0	1433.0
5°	1441.6	1440.6	1439.5	1438.5	1437.3	1435.5	1433.0	1430.5	1428.1	1425.5	1428.4
7.5°	1429.4	1428.8	1428.1	1427.4	1426.8	1425.4	1423.4	1421.3	1419.2	1417.1	1420.4
10°	1419.1	1418.7	1418.4	1418.0	1417.6	1416.5	1414.7	1413.0	1411.2	1409.4	1412.6
12.5°	1404.8	1404.8	1404.7	1404.6	1404.6	1403.9	1402.7	1401.5	1400.3	1399.1	1402.0
15°	1382.0	1382.3	1382.7	1383.0	1383.4	1383.0	1382.0	1380.9	1379.8	1378.8	1382.0
17.5°	1350.7	1351.8	1352.8	1353.9	1354.9	1355.4	1355.2	1354.9	1354.7	1354.5	1357.9
20°	1328.8	1329.8	1330.9	1332.0	1333.0	1333.7	1334.1	1334.5	1334.8	1335.2	1338.8
22.5°	1304.2	1305.6	1307.0	1308.3	1309.7	1310.7	1311.3	1312.0	1312.6	1313.2	1316.9
25°	1264.3	1266.4	1268.6	1270.7	1272.8	1274.4	1275.6	1276.6	1277.7	1278.8	1282.7
27.5°	1219.7	1222.9	1226.1	1229.2	1232.3	1234.8	1236.4	1238.1	1239.7	1241.3	1245.0
30°	1190.0	1193.0	1195.8	1198.7	1201.5	1204.3	1206.7	1209.2	1211.7	1214.3	1218.2
32.5°	1157.8	1161.2	1164.7	1168.1	1171.5	1174.7	1177.5	1180.3	1183.1	1185.9	1190.4
35°	1106.2	1110.5	1114.8	1119.1	1123.4	1127.3	1130.9	1134.5	1138.1	1141.7	1146.7
37.5°	1054.3	1059.2	1064.2	1069.1	1074.1	1078.7	1083.2	1087.6	1092.1	1096.5	1101.7
40°	1020.8	1025.4	1030.1	1034.7	1039.4	1044.2	1049.2	1054.3	1059.2	1064.3	1069.6
42.5°	982.1	987.2	992.5	997.7	1003.0	1008.6	1014.4	1020.3	1026.1	1032.1	1038.0
45°	922.4	929.2	936.0	942.8	949.6	956.4	963.2	970.1	976.8	983.7	989.8
47.5°	865.3	872.3	879.4	886.4	893.4	900.9	908.8	916.7	924.5	932.4	938.7
50°	824.0	831.9	839.8	847.7	855.6	863.4	871.3	879.2	887.1	894.9	902.1
52.5°	782.7	790.6	798.5	806.4	814.3	822.7	831.7	840.8	849.8	858.9	866.1
55°	722.5	729.9	737.5	745.0	752.6	761.6	772.4	783.2	794.0	804.7	811.8
57.5°	655.0	664.4	673.7	683.0	692.3	702.3	713.0	723.7	734.4	745.0	753.6
60°	611.2	620.5	629.8	639.1	648.4	659.0	670.9	682.7	694.5	706.3	714.6
62.5°	568.6	578.8	589.0	599.2	609.3	620.3	632.2	644.0	655.8	667.6	675.8
65°	499.9	511.4	522.8	534.3	545.7	557.5	569.8	582.0	594.1	606.3	615.3
67.5°	433.7	446.0	458.2	470.3	482.5	495.1	508.2	521.2	534.2	547.3	556.4
70°	388.6	400.8	413.0	425.2	437.4	450.3	463.8	477.5	491.1	504.7	514.4
72.5°	344.8	357.2	369.7	382.1	394.7	408.1	422.6	437.1	451.5	466.1	475.4
75°	277.4	290.6	303.9	317.1	330.4	344.6	359.6	374.7	389.7	404.8	414.8
77.5°	214.5	228.5	242.6	256.6	270.6	285.6	301.3	317.1	332.9	348.6	358.8
80°	175.8	190.1	204.4	218.7	233.1	248.1	263.9	279.7	295.5	311.2	321.9
82.5°	137.0	152.0	166.9	181.8	196.7	212.1	227.8	243.6	259.3	275.1	286.1
85°	85.4	100.5	115.5	130.6	145.6	161.3	177.3	193.5	209.6	225.8	236.5
87.5°	48.0	62.9	78.2	93.0	107.9	123.0	139.9	155.6	171.7	187.7	197.9
90°	26.8	43.1	60.5	75.8	91.2	106.0	127.5	142.9	160.4	177.8	187.1
92.5°	36.1	54.1	76.5	101.7	129.4	164.5	231.1	324.8	416.4	471.7	428.4
95°	54.2	69.1	91.0	115.9	152.0	207.5	309.9	490.0	745.6	961.9	994.8
97.5°	78.7	88.9	107.8	130.0	161.0	208.8	290.9	441.9	696.0	995.7	1201.0
100°	94.3	103.7	120.1	141.5	170.0	213.9	287.3	415.2	634.8	933.1	1200.8
102.5°	110.5	120.3	134.7	154.1	180.7	222.3	289.7	403.6	592.4	858.1	1133.7
105°	132.5	142.7	154.9	174.1	199.4	238.9	300.5	397.5	551.9	767.8	1013.7
107.5°	160.0	167.8	178.7	197.5	220.8	258.8	315.7	404.5	537.6	713.3	915.4
110°	177.2	184.3	194.3	211.5	234.6	270.6	327.5	410.6	534.0	692.8	865.4



TEST NUMBER: P332702-840

CATALOG NUMBER: S124DIP-S1195D1035U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	193.7	200.2	210.5	226.2	248.7	284.2	338.9	417.4	533.0	679.0	833.6
115°	217.3	223.6	233.9	247.2	269.5	304.2	356.0	427.9	533.1	665.6	800.5
117.5°	243.7	248.4	256.6	269.6	289.5	324.1	373.0	439.4	534.1	654.9	779.9
120°	260.1	263.2	271.4	283.5	301.7	335.7	384.4	447.2	535.2	648.4	767.5
122.5°	276.2	278.4	285.7	296.2	315.2	347.6	395.8	454.7	536.5	641.2	754.6
125°	295.8	299.4	305.2	315.9	334.7	367.2	412.4	467.8	540.3	631.9	735.5
127.5°	314.3	317.1	324.0	336.3	356.0	387.6	429.6	479.0	541.4	620.1	711.1
130°	323.5	327.1	334.8	349.5	368.4	400.3	440.3	485.3	542.5	612.8	695.8
132.5°	333.9	336.8	346.9	360.8	381.2	411.0	449.9	492.9	544.1	606.8	682.3
135°	347.0	351.0	361.1	378.3	399.4	426.9	462.7	501.5	545.3	596.2	660.5
137.5°	361.7	365.2	376.0	391.9	413.5	439.0	471.2	506.3	544.2	588.7	642.1
140°	372.2	374.9	385.6	402.4	423.2	447.4	478.0	510.6	545.2	583.9	632.0
142.5°	382.2	385.2	395.4	411.6	431.9	455.1	484.4	514.0	546.4	581.4	623.9
145°	397.8	400.5	410.2	423.9	442.7	464.7	491.0	518.2	547.4	578.7	613.1
147.5°	415.8	416.4	425.0	439.1	454.6	474.4	499.1	522.8	548.5	575.0	603.8
150°	427.1	427.7	435.5	447.2	461.9	480.9	503.1	525.2	548.5	572.6	597.8
152.5°	436.3	436.4	444.3	455.6	469.0	486.6	506.3	526.8	546.8	568.6	591.4
155°	450.6	451.6	457.7	467.8	478.9	494.0	511.1	528.3	544.4	562.6	581.7
157.5°	464.9	464.9	470.6	478.5	488.2	500.1	514.5	528.3	541.8	556.3	571.8
160°	473.8	473.8	477.9	484.9	493.0	504.1	516.1	528.3	539.4	551.5	564.6
162.5°	481.9	481.1	484.3	490.6	497.9	506.5	517.8	528.3	536.9	546.6	558.2
165°	491.0	491.0	493.0	498.1	503.1	509.1	518.2	526.2	532.3	539.4	547.4
167.5°	500.1	499.1	500.1	503.9	506.8	511.3	518.0	523.8	527.5	532.1	537.8
170°	504.1	503.1	504.1	507.2	509.1	512.1	517.2	522.2	524.2	527.3	531.3
172.5°	508.1	507.2	507.3	509.5	510.7	512.9	516.3	520.6	521.0	522.4	525.6
175°	512.1	511.1	511.1	512.1	513.1	513.1	515.1	518.2	517.2	517.2	519.2
177.5°	513.9	513.1	512.3	513.1	513.1	513.1	513.9	515.5	513.9	513.9	514.7
180°	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1



TEST NUMBER: P332702-840

CATALOG NUMBER: S124DIP-S1195D1035U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1435.0	1437.0	1439.1	1439.9	1439.6	1439.3	1439.1	1438.8
5°	1431.3	1434.1	1436.9	1438.2	1437.8	1437.5	1437.1	1436.8
7.5°	1423.6	1426.8	1430.1	1431.5	1431.1	1430.8	1430.4	1430.1
10°	1415.8	1419.1	1422.3	1423.7	1423.4	1423.0	1422.6	1422.3
12.5°	1404.9	1407.9	1410.8	1412.3	1412.2	1412.1	1412.0	1412.0
15°	1385.2	1388.5	1391.6	1393.1	1392.7	1392.4	1392.0	1391.6
17.5°	1361.2	1364.4	1367.8	1369.3	1369.0	1368.7	1368.4	1368.1
20°	1342.4	1345.9	1349.6	1351.3	1351.3	1351.3	1351.3	1351.3
22.5°	1320.4	1324.0	1327.6	1329.7	1330.3	1330.8	1331.4	1332.0
25°	1286.7	1290.6	1294.5	1296.7	1297.1	1297.4	1297.8	1298.1
27.5°	1248.7	1252.3	1256.0	1258.0	1258.5	1258.9	1259.3	1259.7
30°	1222.1	1226.1	1230.0	1232.3	1233.0	1233.8	1234.5	1235.3
32.5°	1194.9	1199.4	1204.0	1206.6	1207.3	1208.0	1208.7	1209.4
35°	1151.8	1156.7	1161.7	1164.8	1165.9	1167.0	1168.0	1169.1
37.5°	1106.7	1111.8	1116.9	1120.0	1121.2	1122.3	1123.5	1124.6
40°	1075.0	1080.5	1085.8	1089.2	1090.7	1092.1	1093.5	1094.9
42.5°	1043.9	1049.9	1055.8	1059.3	1060.6	1061.7	1062.8	1064.0
45°	995.8	1002.0	1008.0	1012.0	1013.8	1015.5	1017.3	1019.2
47.5°	945.0	951.3	957.7	961.8	964.0	966.1	968.3	970.5
50°	909.3	916.5	923.6	928.3	930.5	932.6	934.7	936.9
52.5°	873.2	880.4	887.5	892.2	894.3	896.5	898.6	900.8
55°	819.0	826.2	833.3	838.0	840.1	842.3	844.4	846.6
57.5°	762.0	770.6	779.1	784.4	786.4	788.4	790.4	792.4
60°	722.8	731.0	739.2	744.8	747.7	750.5	753.5	756.3
62.5°	684.1	692.4	700.5	706.1	709.0	711.9	714.7	717.6
65°	624.2	633.2	642.2	648.0	651.0	653.8	656.7	659.5
67.5°	565.5	574.6	583.7	589.7	592.5	595.2	598.0	600.9
70°	524.1	533.7	543.4	549.6	552.0	554.5	557.0	559.6
72.5°	484.8	494.2	503.6	509.7	512.5	515.2	518.1	520.9
75°	424.9	434.8	444.8	451.5	454.7	458.0	461.2	464.4
77.5°	369.0	379.2	389.3	396.2	399.6	403.0	406.5	409.9
80°	332.8	343.5	354.3	361.0	363.9	366.8	369.6	372.5
82.5°	297.2	308.2	319.2	326.4	329.5	332.6	335.8	338.9
85°	247.2	258.0	268.7	275.9	279.5	283.1	286.7	290.2
87.5°	208.5	219.1	229.7	236.5	239.8	243.3	246.2	249.3
90°	198.5	210.0	221.4	228.0	231.9	235.8	237.6	240.4
92.5°	370.1	331.2	310.8	297.2	288.2	285.6	285.1	287.9
95°	906.7	760.1	634.7	543.3	497.2	469.2	454.2	444.3
97.5°	1252.8	1204.2	1114.9	1015.9	946.5	889.0	861.8	843.9
100°	1357.8	1387.6	1347.9	1279.3	1194.2	1135.2	1107.4	1101.9
102.5°	1345.0	1454.5	1478.1	1453.2	1402.2	1360.4	1331.3	1327.7
105°	1253.4	1436.8	1545.6	1592.9	1597.7	1592.6	1581.3	1578.1
107.5°	1128.7	1323.2	1472.6	1568.2	1620.6	1646.2	1658.8	1664.1
110°	1053.1	1235.7	1390.1	1506.6	1581.0	1626.2	1647.3	1659.2



TEST NUMBER: P332702-840

CATALOG NUMBER: S124DIP-S1195D1035U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	995.2	1157.4	1303.5	1419.8	1503.9	1558.0	1586.3	1603.9
115°	934.4	1066.2	1192.1	1294.0	1376.2	1439.3	1474.0	1484.6
117.5°	898.9	1009.0	1109.1	1196.4	1267.2	1320.8	1356.3	1365.5
120°	880.5	981.5	1069.2	1145.9	1206.2	1253.4	1282.5	1296.5
122.5°	864.4	962.1	1042.7	1110.2	1161.4	1201.9	1226.7	1240.3
125°	839.1	932.6	1009.0	1068.9	1111.4	1142.8	1164.1	1172.3
127.5°	808.5	897.9	973.6	1030.8	1073.7	1102.2	1120.7	1129.2
130°	786.0	872.0	947.1	1004.8	1048.2	1075.6	1093.9	1102.1
132.5°	763.3	844.2	917.4	974.9	1017.6	1048.2	1065.7	1073.9
135°	729.6	800.9	868.2	922.5	965.0	995.4	1013.7	1021.9
137.5°	700.0	760.7	817.8	866.9	906.4	936.0	951.1	960.2
140°	683.0	735.0	785.1	830.6	867.7	891.6	907.6	917.5
142.5°	667.9	713.8	756.8	796.3	829.0	851.1	865.1	872.2
145°	647.5	684.0	716.3	746.4	773.0	791.5	803.0	809.5
147.5°	630.7	658.1	682.7	705.6	725.3	741.1	749.9	752.9
150°	622.1	645.2	665.4	683.6	699.6	712.8	718.8	719.8
152.5°	613.2	633.1	651.7	666.6	680.3	690.9	694.6	695.6
155°	599.9	616.0	631.1	643.2	653.3	661.4	664.4	664.4
157.5°	585.5	599.1	611.8	621.5	629.0	635.1	636.9	636.9
160°	576.6	587.7	598.8	606.9	613.0	619.0	620.1	620.1
162.5°	567.7	577.2	585.9	593.2	597.6	603.7	604.7	603.9
165°	555.5	561.6	568.6	573.6	577.6	581.7	580.7	579.7
167.5°	543.6	548.3	553.9	556.9	559.0	561.6	561.4	560.6
170°	536.3	539.4	543.4	546.4	548.5	549.5	548.5	548.5
172.5°	529.9	532.1	534.5	536.7	538.0	539.0	538.0	536.3
175°	521.2	522.2	524.2	524.2	524.2	526.2	524.2	522.2
177.5°	515.5	516.3	516.3	517.2	516.3	517.2	515.5	513.9
180°	513.1	513.1	513.1	513.1	513.1	513.1	513.1	513.1

(END OF REPORT)