

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: P332656-840

Luminaire Tested: **S124DIP-S1020D1035U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332656-840
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: S124DIP-S1020D1035U840-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7870.2 lumens
Efficiency: N/A
Efficacy: 130.1 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

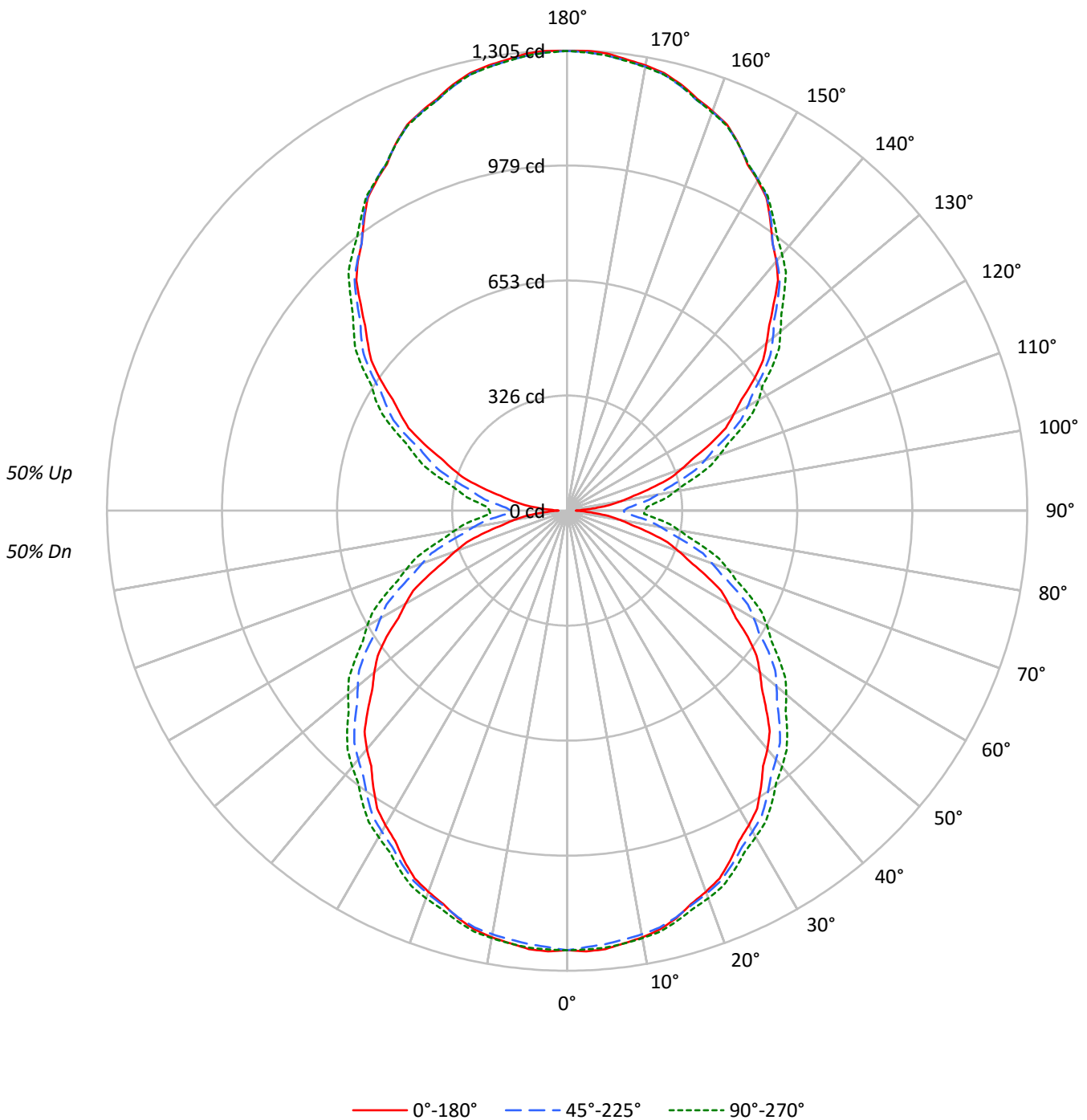
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	72	69	66	59	57	56	48	47	45	40
2	88	80	73	68	80	74	68	63	62	58	54	51	48	46	42	39	37	33
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	37	34	31	27
4	73	61	53	47	67	57	50	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	51	43	37	43	37	33	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	39	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10066	10066	10066
5°	10097	9838	9866
10°	10035	9677	9669
15°	9945	9490	9439
20°	9810	9285	9213
25°	9657	9054	8967
30°	9492	8825	8712
35°	9305	8591	8490
40°	9154	8367	8259
45°	8931	8161	8059
50°	8744	7924	7849
55°	8549	7700	7603
60°	8247	7415	7378
65°	7914	7109	7102
70°	7513	6760	6779
75°	6949	6374	6488
80°	6328	6004	6203
85°	5536	5679	6037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.1	1.5
10°-20°	338.3	4.3
20°-30°	511.5	6.5
30°-40°	618.9	7.9
40°-50°	654.3	8.3
50°-60°	615.8	7.8
60°-70°	510.9	6.5
70°-80°	358.9	4.6
80°-90°	206.8	2.6
90°-100°	206.4	2.6
100°-110°	343.8	4.4
110°-120°	492.1	6.3
120°-130°	603.7	7.7
130°-140°	654.6	8.3
140°-150°	631.9	8.0
150°-160°	529.0	6.7
160°-170°	352.0	4.5
170°-180°	123.2	1.6
0°-30°	967.9	12.3
0°-40°	1586.8	20.2
0°-60°	2856.9	36.3
0°-90°	3933.4	50.0
90°-120°	1042.3	13.2
90°-150°	2932.6	37.3
90°-180°	3937.0	50.0
0°-180°	7870.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1247	1247	1247	1247	1247	
5°	1248	1244	1234	1245	1244	118
15°	1197	1198	1194	1206	1205	337
25°	1095	1103	1107	1122	1124	504
35°	958	974	989	1007	1012	600
45°	799	825	852	875	882	617
55°	626	656	697	724	733	557
65°	433	478	525	559	571	429
75°	240	292	350	388	402	255
85°	74	133	196	236	251	79
90°	25	92	160	205	220	19
95°	79	134	198	237	251	82
105°	247	278	332	369	384	263
115°	448	462	503	532	542	442
125°	646	646	678	702	709	576
135°	828	835	844	864	870	641
145°	1004	1007	1008	1015	1018	628
155°	1149	1149	1148	1152	1148	529
165°	1251	1248	1246	1251	1248	352
175°	1301	1297	1295	1302	1295	123
180°	1303	1303	1303	1303	1303	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1251.3	1250.6	1249.8	1249.1	1248.3	1247.0	1245.0	1243.0	1241.0	1239.0	1240.7
5°	1248.2	1247.3	1246.4	1245.5	1244.6	1242.9	1240.8	1238.6	1236.5	1234.3	1236.8
7.5°	1237.6	1237.1	1236.5	1236.0	1235.4	1234.3	1232.4	1230.6	1228.8	1227.0	1229.8
10°	1228.7	1228.4	1228.1	1227.8	1227.5	1226.5	1225.0	1223.5	1221.8	1220.3	1223.1
12.5°	1216.4	1216.4	1216.3	1216.2	1216.2	1215.6	1214.6	1213.5	1212.4	1211.3	1214.0
15°	1196.6	1196.9	1197.2	1197.5	1197.8	1197.5	1196.6	1195.7	1194.7	1193.8	1196.6
17.5°	1169.5	1170.4	1171.3	1172.3	1173.3	1173.6	1173.4	1173.3	1173.1	1172.9	1175.7
20°	1150.5	1151.4	1152.4	1153.3	1154.3	1154.9	1155.2	1155.5	1155.8	1156.1	1159.2
22.5°	1129.2	1130.4	1131.7	1132.9	1134.0	1134.9	1135.4	1136.0	1136.5	1137.1	1140.2
25°	1094.7	1096.5	1098.3	1100.2	1102.1	1103.5	1104.4	1105.4	1106.3	1107.2	1110.6
27.5°	1056.1	1058.8	1061.6	1064.3	1067.0	1069.1	1070.6	1072.0	1073.4	1074.8	1078.0
30°	1030.5	1032.9	1035.4	1037.8	1040.4	1042.7	1044.8	1047.0	1049.1	1051.4	1054.8
32.5°	1002.5	1005.5	1008.5	1011.5	1014.4	1017.1	1019.6	1022.0	1024.4	1026.8	1030.7
35°	957.9	961.6	965.2	969.0	972.7	976.1	979.3	982.3	985.4	988.6	992.9
37.5°	912.8	917.2	921.4	925.7	930.0	934.0	937.9	941.7	945.6	949.5	953.8
40°	883.8	887.9	891.9	896.0	900.0	904.1	908.5	912.8	917.2	921.5	926.1
42.5°	850.3	854.9	859.4	863.9	868.4	873.2	878.3	883.4	888.5	893.6	898.8
45°	798.6	804.6	810.4	816.4	822.2	828.1	834.0	839.9	845.8	851.7	857.0
47.5°	749.2	755.3	761.3	767.5	773.6	780.0	786.8	793.7	800.5	807.3	812.7
50°	713.5	720.3	727.1	734.0	740.7	747.6	754.5	761.2	768.1	774.9	781.1
52.5°	677.7	684.6	691.4	698.2	705.1	712.4	720.1	728.0	735.8	743.7	749.8
55°	625.5	632.1	638.5	645.1	651.6	659.4	668.8	678.1	687.4	696.7	703.0
57.5°	567.1	575.2	583.3	591.4	599.5	608.0	617.3	626.6	635.8	645.1	652.5
60°	529.2	537.2	545.3	553.4	561.5	570.6	580.9	591.1	601.3	611.6	618.6
62.5°	492.3	501.1	510.0	518.8	527.6	537.0	547.3	557.5	567.8	578.0	585.2
65°	432.8	442.7	452.7	462.6	472.5	482.8	493.3	503.9	514.4	525.0	532.7
67.5°	375.6	386.2	396.7	407.3	417.8	428.7	440.0	451.3	462.6	473.9	481.8
70°	336.5	347.1	357.6	368.1	378.7	389.9	401.6	413.4	425.3	437.1	445.5
72.5°	298.5	309.3	320.1	330.9	341.7	353.4	365.9	378.4	391.0	403.5	411.6
75°	240.1	251.7	263.1	274.6	286.1	298.3	311.3	324.4	337.4	350.4	359.1
77.5°	185.7	197.8	210.1	222.2	234.4	247.2	260.9	274.6	288.2	301.8	310.6
80°	152.2	164.6	177.0	189.5	201.9	214.9	228.5	242.2	255.8	269.4	278.8
82.5°	118.7	131.6	144.5	157.4	170.3	183.6	197.2	210.9	224.6	238.2	247.7
85°	74.0	87.1	100.1	113.1	126.1	139.7	153.6	167.5	181.5	195.5	204.8
87.5°	41.9	55.0	68.3	81.4	94.5	108.1	122.0	136.0	150.0	163.9	173.2
90°	25.3	40.2	55.1	70.0	84.8	99.9	115.0	130.2	145.3	160.4	170.8
92.5°	42.8	56.8	70.8	84.7	98.8	113.1	127.6	142.3	156.8	171.5	181.0
95°	78.7	90.9	103.1	115.4	127.6	140.9	155.2	169.5	183.8	198.0	207.1
97.5°	122.1	132.5	143.0	153.4	163.8	176.2	190.7	205.1	219.5	234.0	242.9
100°	156.4	165.4	174.4	183.4	192.4	203.9	218.0	232.1	246.2	260.3	269.1
102.5°	193.6	201.0	208.4	215.9	223.3	233.9	247.5	261.3	274.9	288.6	297.4
105°	247.4	253.9	260.2	266.7	273.2	282.6	294.9	307.3	319.7	332.0	340.5
107.5°	306.6	311.9	317.3	322.7	328.0	336.2	347.2	358.2	369.2	380.2	388.5
110°	345.8	350.6	355.4	360.2	365.0	372.7	383.3	393.9	404.7	415.3	421.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	386.7	390.6	394.6	398.5	402.4	409.3	419.3	429.3	439.2	449.2	456.0
115°	447.9	450.6	453.4	456.3	459.0	465.1	474.6	484.1	493.6	503.1	509.7
117.5°	506.9	508.7	510.6	512.4	514.2	519.7	528.6	537.6	546.4	555.4	561.1
120°	545.2	547.0	548.9	550.7	552.6	557.6	565.9	574.3	582.6	591.0	596.0
122.5°	586.3	586.9	587.4	588.0	588.5	592.9	601.1	609.3	617.4	625.7	631.1
125°	645.6	645.3	645.0	644.7	644.4	648.0	655.6	663.1	670.7	678.1	683.6
127.5°	700.4	700.7	701.1	701.5	701.9	704.9	710.4	716.0	721.6	727.2	732.4
130°	738.0	738.3	738.7	739.1	739.4	742.1	747.1	752.0	757.0	761.9	767.1
132.5°	777.5	777.7	777.9	778.1	778.2	780.2	784.1	787.8	791.6	795.4	800.3
135°	828.3	829.7	831.0	832.3	833.7	835.5	837.7	839.8	842.0	844.1	848.7
137.5°	885.1	885.4	885.9	886.2	886.5	887.3	888.7	890.1	891.5	892.9	897.0
140°	923.1	923.2	923.3	923.5	923.6	923.8	924.1	924.4	924.8	925.1	928.9
142.5°	956.6	957.0	957.5	957.8	958.2	958.2	957.9	957.5	957.0	956.7	960.2
145°	1004.3	1004.9	1005.5	1006.1	1006.6	1007.0	1007.3	1007.5	1007.7	1007.9	1009.7
147.5°	1051.9	1052.7	1053.5	1054.2	1055.0	1055.3	1055.1	1054.9	1054.7	1054.6	1054.6
150°	1081.0	1081.6	1082.1	1082.7	1083.3	1083.6	1083.6	1083.6	1083.6	1083.6	1083.6
152.5°	1107.2	1107.7	1108.2	1108.6	1109.1	1109.4	1109.6	1109.8	1110.0	1110.1	1110.8
155°	1149.1	1149.1	1149.1	1149.1	1149.1	1149.0	1148.7	1148.5	1148.3	1148.1	1149.0
157.5°	1184.6	1184.2	1183.8	1183.4	1183.0	1182.8	1182.7	1182.7	1182.7	1182.6	1183.3
160°	1205.6	1205.3	1205.1	1204.9	1204.7	1204.5	1204.2	1204.0	1203.8	1203.6	1204.2
162.5°	1224.9	1224.4	1223.8	1223.1	1222.5	1222.1	1221.9	1221.7	1221.5	1221.2	1222.4
165°	1250.9	1250.2	1249.6	1248.9	1248.2	1247.7	1247.2	1246.8	1246.3	1245.9	1247.2
167.5°	1270.9	1269.9	1269.0	1268.1	1267.1	1266.7	1266.7	1266.8	1266.8	1266.9	1268.2
170°	1282.1	1281.0	1279.9	1278.8	1277.7	1277.2	1277.5	1277.7	1277.9	1278.1	1279.5
172.5°	1290.2	1289.3	1288.4	1287.4	1286.5	1286.0	1286.1	1286.1	1286.2	1286.2	1287.7
175°	1301.3	1300.2	1299.1	1298.0	1296.9	1296.2	1296.0	1295.7	1295.5	1295.3	1296.9
177.5°	1304.9	1304.0	1303.1	1302.2	1301.3	1300.9	1300.9	1300.9	1300.9	1300.9	1302.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1242.5	1244.3	1246.0	1246.7	1246.5	1246.2	1246.0	1245.8
5°	1239.2	1241.7	1244.3	1245.3	1245.0	1244.7	1244.4	1244.1
7.5°	1232.6	1235.4	1238.2	1239.4	1239.1	1238.8	1238.5	1238.2
10°	1225.9	1228.7	1231.5	1232.7	1232.4	1232.1	1231.8	1231.5
12.5°	1216.5	1219.0	1221.5	1222.8	1222.7	1222.6	1222.6	1222.5
15°	1199.4	1202.1	1205.0	1206.2	1205.9	1205.6	1205.3	1205.0
17.5°	1178.5	1181.4	1184.3	1185.6	1185.3	1185.1	1184.8	1184.6
20°	1162.3	1165.4	1168.5	1170.0	1170.0	1170.0	1170.0	1170.0
22.5°	1143.3	1146.4	1149.5	1151.3	1151.9	1152.3	1152.8	1153.3
25°	1114.1	1117.4	1120.8	1122.8	1123.1	1123.4	1123.7	1124.0
27.5°	1081.2	1084.3	1087.5	1089.2	1089.6	1090.0	1090.4	1090.8
30°	1058.2	1061.6	1065.0	1067.0	1067.6	1068.2	1068.9	1069.5
32.5°	1034.6	1038.5	1042.5	1044.7	1045.3	1045.9	1046.5	1047.2
35°	997.2	1001.6	1005.9	1008.6	1009.5	1010.4	1011.4	1012.3
37.5°	958.3	962.7	967.0	969.8	970.8	971.8	972.7	973.7
40°	930.8	935.4	940.2	943.1	944.3	945.5	946.8	948.1
42.5°	903.9	909.1	914.2	917.3	918.3	919.3	920.3	921.2
45°	862.2	867.6	872.8	876.3	877.8	879.3	880.9	882.4
47.5°	818.2	823.6	829.2	832.8	834.7	836.6	838.4	840.3
50°	787.3	793.6	799.7	803.8	805.7	807.5	809.3	811.2
52.5°	756.1	762.2	768.5	772.4	774.4	776.2	778.1	779.9
55°	709.1	715.4	721.5	725.6	727.4	729.3	731.1	733.1
57.5°	659.8	667.2	674.6	679.1	680.9	682.7	684.4	686.1
60°	625.8	633.0	640.1	644.9	647.4	649.8	652.4	654.8
62.5°	592.3	599.5	606.6	611.4	613.9	616.3	618.8	621.4
65°	540.5	548.3	556.0	561.2	563.6	566.1	568.6	571.1
67.5°	489.7	497.6	505.4	510.6	513.0	515.4	517.9	520.3
70°	453.7	462.1	470.5	475.8	478.0	480.2	482.3	484.5
72.5°	419.8	427.9	436.1	441.3	443.7	446.2	448.6	451.0
75°	367.8	376.5	385.2	390.9	393.7	396.6	399.3	402.1
77.5°	319.5	328.3	337.1	343.1	346.0	349.0	351.9	355.0
80°	288.1	297.4	306.7	312.6	315.1	317.6	320.0	322.6
82.5°	257.3	266.9	276.4	282.6	285.3	288.0	290.7	293.5
85°	214.1	223.4	232.7	238.9	242.1	245.1	248.2	251.4
87.5°	182.4	191.7	201.0	207.0	209.8	212.7	215.5	218.2
90°	181.1	191.5	201.8	208.4	211.4	214.3	217.2	220.2
92.5°	190.6	200.2	209.6	215.8	218.5	221.4	224.1	226.8
95°	216.2	225.2	234.3	240.2	243.0	245.8	248.5	251.4
97.5°	251.9	260.7	269.7	275.5	278.2	280.8	283.6	286.2
100°	278.0	286.8	295.6	301.1	303.3	305.5	307.6	309.8
102.5°	306.1	314.9	323.7	329.3	331.9	334.6	337.1	339.7
105°	348.9	357.3	365.8	371.5	374.8	377.9	381.0	384.2
107.5°	396.7	405.0	413.2	418.5	420.6	422.8	425.1	427.2
110°	428.6	435.4	442.0	447.0	450.1	453.2	456.4	459.5



TEST NUMBER: P332656-840

CATALOG NUMBER: S124DIP-S1020D1035U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	462.7	469.6	476.4	481.1	483.7	486.4	488.9	491.5
115°	516.2	522.9	529.5	533.8	535.7	537.7	539.6	541.6
117.5°	566.7	572.5	578.1	582.0	584.1	586.1	588.1	590.2
120°	601.1	606.2	611.3	615.3	618.2	621.2	624.1	627.0
122.5°	636.5	642.0	647.4	650.9	652.3	653.7	655.2	656.6
125°	689.0	694.5	699.9	703.4	704.8	706.2	707.6	709.0
127.5°	737.5	742.7	747.8	751.2	753.0	754.8	756.5	758.2
130°	772.2	777.4	782.5	785.6	786.5	787.5	788.5	789.4
132.5°	805.2	810.1	815.0	818.2	819.6	821.1	822.6	824.2
135°	853.2	857.7	862.2	865.1	866.3	867.5	868.7	869.8
137.5°	900.9	904.8	908.8	911.6	913.2	914.9	916.7	918.3
140°	932.7	936.5	940.3	942.9	944.2	945.5	946.8	948.3
142.5°	963.7	967.2	970.7	973.1	974.3	975.6	976.8	978.2
145°	1011.3	1012.9	1014.5	1015.6	1016.2	1016.7	1017.3	1017.9
147.5°	1054.7	1054.8	1054.8	1055.2	1056.0	1056.8	1057.5	1058.3
150°	1083.6	1083.6	1083.6	1083.5	1083.3	1083.0	1082.8	1082.6
152.5°	1111.3	1111.8	1112.4	1112.4	1111.8	1111.2	1110.5	1109.9
155°	1149.9	1150.7	1151.7	1151.7	1150.7	1149.9	1149.0	1148.1
157.5°	1183.9	1184.6	1185.3	1185.2	1184.5	1183.7	1183.0	1182.1
160°	1204.9	1205.6	1206.2	1206.0	1204.9	1203.8	1202.6	1201.5
162.5°	1223.7	1224.9	1226.1	1226.2	1225.1	1224.0	1222.8	1221.6
165°	1248.6	1249.9	1251.2	1251.4	1250.6	1249.7	1248.8	1247.9
167.5°	1269.5	1270.9	1272.2	1272.2	1270.8	1269.4	1268.0	1266.7
170°	1280.8	1282.1	1283.5	1283.3	1281.8	1280.2	1278.7	1277.1
172.5°	1289.2	1290.7	1292.3	1292.2	1290.7	1289.1	1287.6	1286.0
175°	1298.4	1300.0	1301.5	1301.5	1300.0	1298.4	1296.9	1295.3
177.5°	1303.4	1304.6	1306.0	1305.9	1304.4	1302.9	1301.5	1300.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3

(END OF REPORT)