

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: P332657

Luminaire Tested: **S124DIP-S1020D1035U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332657
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-S1020D1035U835-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 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: 7907.3 lumens
Efficiency: N/A
Efficacy: 130.7 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

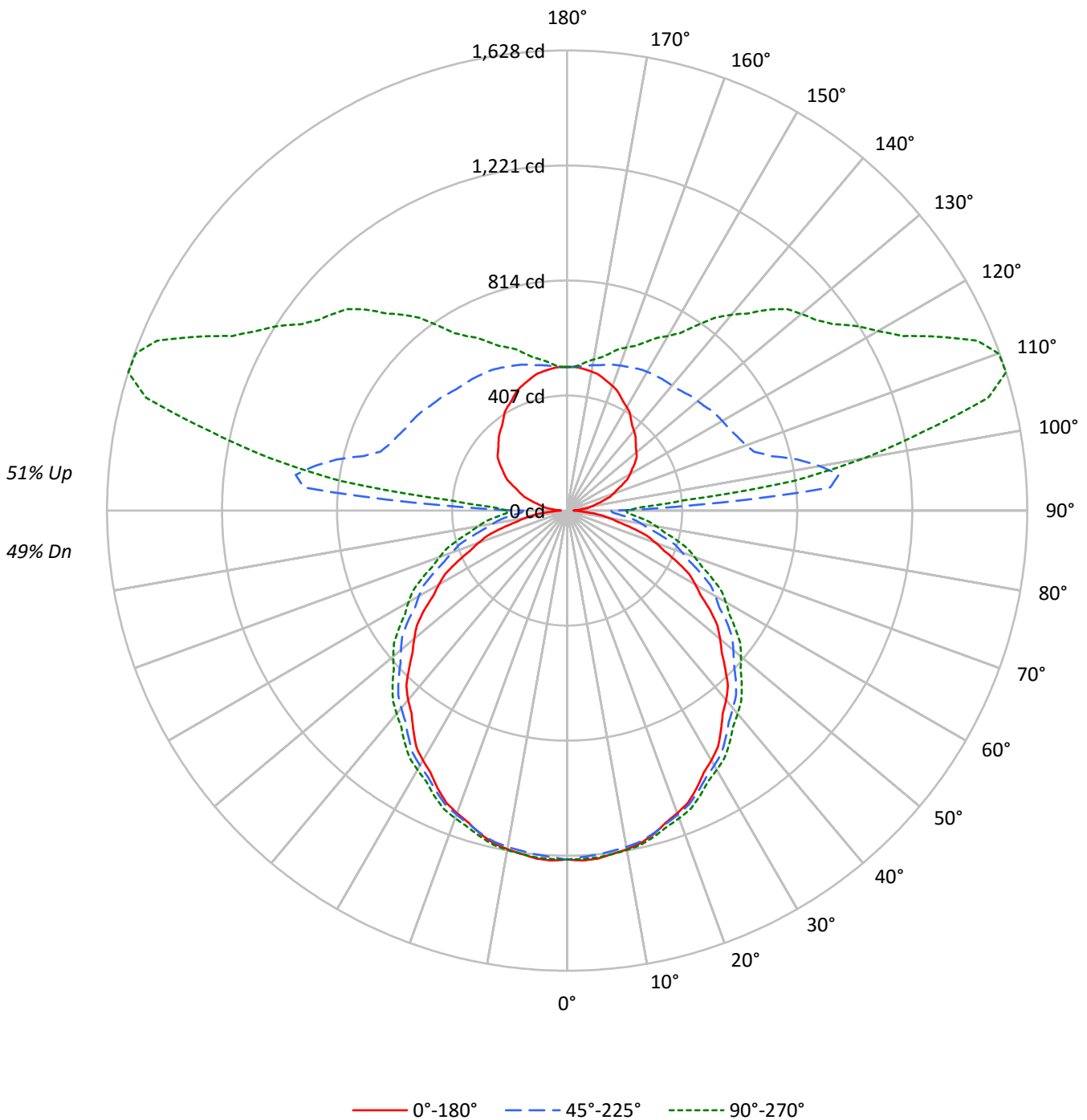
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	35	31	28	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9968	9968	9968
5°	9998	9741	9769
10°	9937	9582	9575
15°	9848	9397	9346
20°	9714	9194	9123
25°	9563	8966	8879
30°	9399	8739	8627
35°	9213	8507	8407
40°	9065	8285	8178
45°	8844	8081	7981
50°	8658	7846	7773
55°	8466	7625	7529
60°	8166	7342	7306
65°	7837	7040	7032
70°	7439	6694	6714
75°	6882	6312	6425
80°	6266	5946	6141
85°	5484	5623	5977



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.9	1.5
10°-20°	335.0	4.2
20°-30°	506.5	6.4
30°-40°	612.9	7.8
40°-50°	647.9	8.2
50°-60°	609.8	7.7
60°-70°	505.9	6.4
70°-80°	355.4	4.5
80°-90°	203.7	2.6
90°-100°	486.3	6.2
100°-110°	852.2	10.8
110°-120°	743.5	9.4
120°-130°	609.0	7.7
130°-140°	494.3	6.3
140°-150°	369.5	4.7
150°-160°	257.7	3.3
160°-170°	151.6	1.9
170°-180°	49.3	0.6
0°-30°	958.4	12.1
0°-40°	1571.3	19.9
0°-60°	2829.0	35.8
0°-90°	3893.9	49.2
90°-120°	2081.9	26.3
90°-150°	3554.7	45.0
90°-180°	4013.0	50.8
0°-180°	7907.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1236	1232	1222	1233	1232	117
15°	1185	1186	1182	1194	1193	334
25°	1084	1092	1096	1111	1113	499
35°	948	965	979	997	1002	594
45°	791	817	843	866	874	611
55°	619	649	690	716	726	552
65°	429	473	520	553	566	425
75°	238	289	347	384	398	253
85°	73	132	194	234	249	78
90°	23	86	155	195	209	16
95°	51	168	934	559	414	51
105°	129	211	746	1535	1542	139
115°	214	281	649	1216	1454	213
125°	292	347	620	1019	1150	260
135°	343	409	588	881	1005	266
145°	394	449	573	723	800	247
155°	446	482	557	631	658	206
165°	486	501	534	566	574	137
175°	507	508	512	519	517	48
180°	508	508	508	508	508	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1239.1	1238.4	1237.6	1236.9	1236.1	1234.8	1232.8	1230.9	1228.9	1226.9	1228.6
5°	1236.0	1235.1	1234.2	1233.3	1232.4	1230.8	1228.7	1226.5	1224.4	1222.2	1224.7
7.5°	1225.5	1225.0	1224.4	1223.9	1223.3	1222.2	1220.4	1218.6	1216.8	1215.0	1217.8
10°	1216.7	1216.4	1216.1	1215.8	1215.5	1214.5	1213.0	1211.5	1209.9	1208.4	1211.2
12.5°	1204.5	1204.5	1204.4	1204.3	1204.3	1203.7	1202.7	1201.6	1200.6	1199.5	1202.1
15°	1184.9	1185.2	1185.5	1185.8	1186.1	1185.8	1184.9	1184.0	1183.0	1182.1	1184.9
17.5°	1158.1	1159.0	1159.9	1160.8	1161.8	1162.1	1161.9	1161.8	1161.6	1161.4	1164.2
20°	1139.3	1140.2	1141.1	1142.0	1143.0	1143.6	1143.9	1144.2	1144.5	1144.8	1147.9
22.5°	1118.2	1119.4	1120.6	1121.8	1122.9	1123.8	1124.3	1124.9	1125.4	1126.0	1129.1
25°	1084.0	1085.8	1087.6	1089.5	1091.3	1092.7	1093.6	1094.6	1095.5	1096.4	1099.8
27.5°	1045.8	1048.5	1051.2	1053.9	1056.6	1058.7	1060.1	1061.5	1062.9	1064.3	1067.5
30°	1020.4	1022.8	1025.3	1027.7	1030.2	1032.5	1034.6	1036.8	1038.9	1041.1	1044.5
32.5°	992.7	995.7	998.6	1001.6	1004.5	1007.2	1009.6	1012.0	1014.4	1016.8	1020.6
35°	948.5	952.2	955.8	959.5	963.2	966.6	969.7	972.7	975.8	978.9	983.2
37.5°	903.9	908.2	912.4	916.7	920.9	924.9	928.7	932.5	936.4	940.2	944.5
40°	875.2	879.2	883.2	887.2	891.2	895.3	899.6	903.9	908.2	912.5	917.1
42.5°	842.0	846.5	851.0	855.5	859.9	864.7	869.7	874.8	879.8	884.9	890.0
45°	790.8	796.7	802.5	808.4	814.2	820.0	825.9	831.7	837.5	843.4	848.6
47.5°	741.9	747.9	753.9	760.0	766.0	772.4	779.1	785.9	792.7	799.4	804.8
50°	706.5	713.3	720.0	726.8	733.5	740.3	747.1	753.8	760.6	767.3	773.5
52.5°	671.1	677.9	684.6	691.4	698.2	705.4	713.1	720.9	728.6	736.4	742.5
55°	619.4	625.9	632.3	638.8	645.2	653.0	662.3	671.5	680.7	689.9	696.1
57.5°	561.6	569.6	577.6	585.6	593.6	602.1	611.3	620.5	629.6	638.8	646.1
60°	524.0	532.0	540.0	548.0	556.0	565.0	575.2	585.3	595.4	605.6	612.6
62.5°	487.5	496.2	505.0	513.7	522.4	531.8	542.0	552.1	562.3	572.4	579.5
65°	428.6	438.4	448.3	458.1	467.9	478.1	488.5	499.0	509.4	519.9	527.5
67.5°	371.9	382.4	392.8	403.3	413.7	424.5	435.7	446.9	458.1	469.3	477.1
70°	333.2	343.7	354.1	364.5	375.0	386.1	397.7	409.4	421.1	432.8	441.1
72.5°	295.6	306.3	317.0	327.7	338.4	349.9	362.3	374.7	387.2	399.6	407.6
75°	237.8	249.2	260.5	271.9	283.3	295.4	308.3	321.2	334.1	347.0	355.6
77.5°	183.9	195.9	208.0	220.0	232.1	244.8	258.4	271.9	285.4	298.9	307.6
80°	150.7	163.0	175.3	187.6	199.9	212.8	226.3	239.8	253.3	266.8	276.1
82.5°	117.5	130.3	143.1	155.9	168.6	181.8	195.3	208.8	222.4	235.9	245.3
85°	73.3	86.2	99.1	112.0	124.9	138.3	152.1	165.9	179.7	193.6	202.8
87.5°	41.1	54.1	67.2	79.9	92.7	105.7	120.3	133.8	147.6	161.5	170.2
90°	23.1	37.4	52.7	66.0	79.3	92.0	111.2	124.4	139.6	154.8	162.8
92.5°	32.4	48.6	69.1	92.3	118.0	150.9	214.8	305.5	394.2	446.9	402.7
95°	50.9	64.1	84.2	107.3	141.4	194.7	294.1	470.5	721.7	933.9	965.2
97.5°	75.4	84.1	101.5	122.2	151.4	197.2	276.5	424.2	673.9	968.7	1170.8
100°	91.1	99.1	114.0	134.0	161.0	202.9	273.8	398.6	614.2	907.7	1171.6
102.5°	107.1	115.7	128.9	147.0	172.2	211.9	277.0	387.9	573.0	834.3	1105.9
105°	129.2	138.4	149.5	167.6	191.8	229.5	288.8	383.0	534.1	746.1	988.4
107.5°	156.5	163.6	173.6	191.4	213.6	250.1	304.7	391.0	521.1	693.4	892.4
110°	173.8	180.1	189.4	205.7	227.9	262.4	317.1	397.7	518.3	673.8	843.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.2	196.1	205.7	220.6	242.4	276.4	329.0	405.2	518.0	661.1	813.1
115°	213.9	219.7	229.5	242.2	263.9	297.2	347.0	416.7	519.4	649.0	781.5
117.5°	240.0	244.5	252.3	265.0	284.4	317.8	364.9	429.1	521.5	639.7	762.5
120°	256.5	259.4	267.3	279.2	297.1	330.0	376.8	437.7	523.4	634.2	751.1
122.5°	272.5	274.6	281.8	292.2	310.9	342.4	388.7	445.9	525.6	627.8	739.2
125°	292.0	295.7	301.4	312.1	330.7	362.4	406.0	459.6	530.2	619.7	721.4
127.5°	310.3	313.2	320.1	332.4	351.8	382.8	423.4	471.5	532.3	609.2	698.6
130°	319.6	323.3	331.0	345.6	364.3	395.6	434.4	478.3	534.1	602.9	684.3
132.5°	330.0	332.9	343.0	356.8	377.1	406.3	444.1	486.2	536.3	597.7	671.7
135°	343.2	347.2	357.2	374.1	395.1	422.1	457.2	495.3	538.4	588.5	651.3
137.5°	357.8	361.3	371.9	387.8	409.2	434.4	466.2	500.8	538.1	581.9	634.1
140°	368.1	370.8	381.5	398.2	418.8	442.8	473.0	505.3	539.5	577.8	624.7
142.5°	378.2	381.2	391.3	407.4	427.5	450.5	479.5	508.9	541.0	575.6	617.2
145°	393.7	396.4	406.1	419.8	438.4	460.2	486.2	513.1	542.1	573.0	606.8
147.5°	411.5	412.2	420.7	434.7	450.2	469.8	494.2	517.7	543.1	569.4	597.8
150°	422.7	423.4	431.0	442.7	457.4	476.2	498.2	520.1	543.1	567.0	592.0
152.5°	431.9	432.1	440.0	451.1	464.4	481.8	501.4	521.7	541.5	563.0	585.6
155°	446.2	447.2	453.2	463.2	474.2	489.2	506.1	523.1	539.1	557.1	576.0
157.5°	460.4	460.4	466.0	473.8	483.4	495.2	509.5	523.1	536.5	550.9	566.2
160°	469.2	469.2	473.2	480.2	488.2	499.2	511.1	523.1	534.1	546.1	559.1
162.5°	477.2	476.4	479.6	485.8	493.0	501.6	512.7	523.1	531.7	541.3	552.7
165°	486.2	486.2	488.2	493.2	498.2	504.1	513.1	521.1	527.1	534.1	542.1
167.5°	495.2	494.2	495.2	499.0	501.8	506.3	512.9	518.7	522.3	526.9	532.5
170°	499.2	498.2	499.2	502.2	504.1	507.1	512.1	517.1	519.1	522.1	526.1
172.5°	503.1	502.2	502.3	504.5	505.7	507.9	511.3	515.5	515.9	517.3	520.5
175°	507.1	506.1	506.1	507.1	508.1	508.1	510.1	513.1	512.1	512.1	514.1
177.5°	508.9	508.1	507.3	508.1	508.1	508.1	508.9	510.5	508.9	508.9	509.7
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1230.4	1232.1	1233.8	1234.5	1234.3	1234.0	1233.8	1233.6
5°	1227.1	1229.6	1232.1	1233.1	1232.8	1232.5	1232.2	1231.9
7.5°	1220.6	1223.3	1226.1	1227.3	1227.0	1226.7	1226.4	1226.1
10°	1213.9	1216.7	1219.5	1220.7	1220.4	1220.1	1219.8	1219.5
12.5°	1204.6	1207.1	1209.6	1210.9	1210.8	1210.7	1210.7	1210.6
15°	1187.7	1190.4	1193.2	1194.4	1194.1	1193.8	1193.5	1193.2
17.5°	1167.0	1169.9	1172.7	1174.0	1173.7	1173.5	1173.2	1173.0
20°	1150.9	1154.0	1157.1	1158.6	1158.6	1158.6	1158.6	1158.6
22.5°	1132.1	1135.2	1138.3	1140.1	1140.6	1141.0	1141.5	1142.0
25°	1103.2	1106.5	1109.9	1111.8	1112.1	1112.4	1112.7	1113.0
27.5°	1070.6	1073.7	1076.9	1078.6	1079.0	1079.4	1079.7	1080.1
30°	1047.9	1051.2	1054.6	1056.6	1057.2	1057.8	1058.5	1059.1
32.5°	1024.5	1028.4	1032.3	1034.5	1035.1	1035.7	1036.3	1037.0
35°	987.5	991.8	996.1	998.7	999.6	1000.5	1001.5	1002.4
37.5°	948.9	953.3	957.6	960.3	961.3	962.3	963.2	964.2
40°	921.7	926.3	931.0	933.9	935.1	936.3	937.6	938.8
42.5°	895.1	900.2	905.3	908.3	909.3	910.3	911.3	912.2
45°	853.8	859.1	864.3	867.7	869.2	870.7	872.3	873.8
47.5°	810.2	815.6	821.1	824.7	826.5	828.4	830.2	832.1
50°	779.6	785.8	791.9	795.9	797.8	799.6	801.4	803.3
52.5°	748.7	754.8	761.0	764.9	766.8	768.6	770.5	772.3
55°	702.2	708.4	714.5	718.5	720.3	722.2	724.0	725.9
57.5°	653.4	660.7	668.0	672.5	674.2	676.0	677.7	679.4
60°	619.7	626.8	633.8	638.6	641.1	643.5	646.0	648.4
62.5°	586.5	593.6	600.7	605.4	607.9	610.3	612.8	615.3
65°	535.2	542.9	550.6	555.7	558.1	560.6	563.0	565.5
67.5°	484.9	492.7	500.5	505.6	508.0	510.4	512.8	515.2
70°	449.3	457.6	465.9	471.2	473.3	475.5	477.6	479.8
72.5°	415.7	423.7	431.8	437.0	439.4	441.8	444.2	446.6
75°	364.2	372.8	381.4	387.1	389.9	392.7	395.4	398.2
77.5°	316.4	325.1	333.8	339.7	342.6	345.6	348.5	351.5
80°	285.3	294.5	303.7	309.5	312.0	314.5	316.9	319.4
82.5°	254.8	264.3	273.7	279.8	282.5	285.2	287.9	290.6
85°	212.0	221.2	230.4	236.6	239.7	242.7	245.8	248.9
87.5°	179.3	188.4	197.5	203.3	206.2	209.1	211.6	214.3
90°	172.7	182.6	192.5	198.2	201.6	205.1	206.5	209.0
92.5°	343.6	303.8	282.3	267.9	258.6	255.6	254.7	257.2
95°	876.6	730.2	604.7	513.4	467.2	439.1	423.9	413.6
97.5°	1220.8	1171.3	1081.7	982.8	913.8	856.4	829.0	810.9
100°	1325.6	1353.9	1313.3	1244.6	1159.9	1101.2	1073.4	1067.5
102.5°	1314.0	1421.1	1443.3	1417.8	1366.9	1325.2	1296.0	1292.0
105°	1224.7	1405.1	1511.6	1557.6	1562.1	1556.6	1545.0	1541.5
107.5°	1102.4	1293.9	1440.6	1534.6	1586.1	1611.1	1623.3	1628.1
110°	1028.4	1208.1	1360.0	1474.5	1547.9	1592.3	1612.7	1624.1



TEST NUMBER: P332657

CATALOG NUMBER: S124DIP-S1020D1035U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	972.0	1131.6	1275.2	1389.6	1472.5	1525.7	1553.3	1570.4
115°	913.1	1042.6	1166.2	1266.5	1347.5	1409.6	1443.7	1453.8
117.5°	879.3	987.3	1085.6	1171.2	1241.0	1293.8	1328.6	1337.2
120°	862.1	961.1	1047.1	1122.3	1181.6	1228.0	1256.4	1269.9
122.5°	847.0	942.8	1021.6	1087.9	1138.2	1177.9	1202.1	1215.3
125°	823.1	914.8	989.5	1048.2	1090.0	1120.8	1141.6	1149.5
127.5°	794.2	881.8	956.0	1011.9	1054.2	1082.0	1100.1	1108.1
130°	772.7	857.1	930.5	987.1	1029.9	1056.7	1074.5	1082.3
132.5°	751.0	830.4	901.9	958.4	1000.4	1030.4	1047.4	1055.2
135°	719.1	788.9	854.7	908.0	949.8	979.6	997.4	1005.2
137.5°	690.9	750.3	806.1	854.2	893.1	922.2	936.9	945.6
140°	674.6	725.5	774.5	819.2	855.6	879.1	894.6	904.2
142.5°	660.3	705.1	747.1	785.9	818.1	839.8	853.4	860.3
145°	640.6	676.4	708.2	737.7	763.9	782.1	793.3	799.5
147.5°	624.4	651.6	675.8	698.4	717.8	733.3	741.9	744.7
150°	616.0	638.9	658.9	676.9	692.8	705.8	711.8	712.8
152.5°	607.2	626.9	645.3	660.1	673.7	684.2	687.8	688.8
155°	594.0	610.0	624.9	636.9	646.9	654.9	657.9	657.9
157.5°	579.8	593.2	605.8	615.4	622.9	628.9	630.7	630.7
160°	571.0	582.0	593.0	601.0	607.0	613.0	614.0	614.0
162.5°	562.2	571.6	580.2	587.4	591.8	597.8	598.8	598.0
165°	550.1	556.1	563.0	568.0	572.0	576.0	575.0	574.0
167.5°	538.3	542.9	548.5	551.5	553.5	556.1	555.9	555.1
170°	531.1	534.1	538.1	541.1	543.1	544.1	543.1	543.1
172.5°	524.7	526.9	529.3	531.5	532.7	533.7	532.7	531.1
175°	516.1	517.1	519.1	519.1	519.1	521.1	519.1	517.1
177.5°	510.5	511.3	511.3	512.1	511.3	512.1	510.5	508.9
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1

(END OF REPORT)