

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: P332647

Luminaire Tested: **S124DIP-S1020D810U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332647
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-S1020D810U835-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7016.4 lumens
Efficiency: N/A
Efficacy: 129.0 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

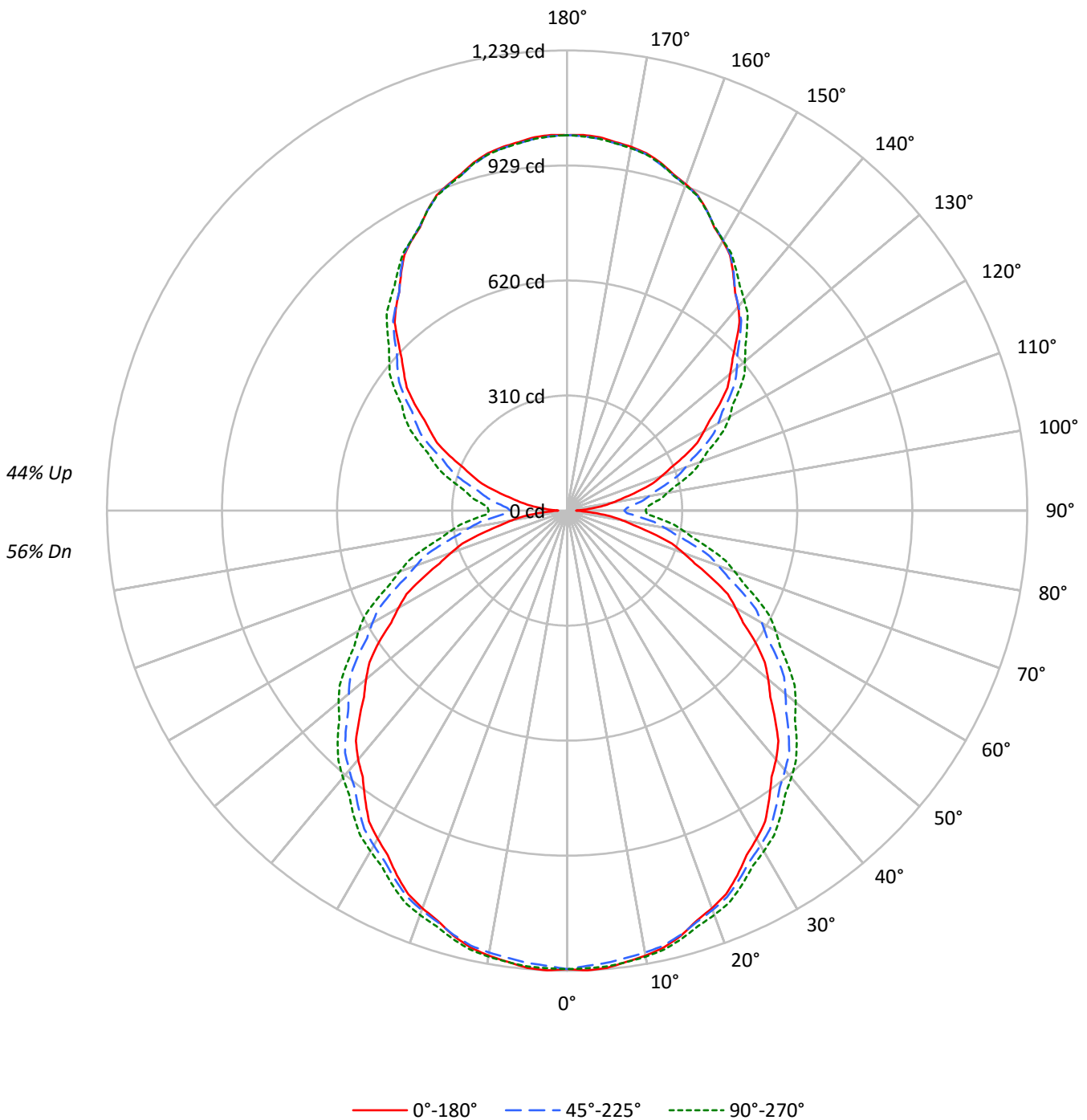
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	86	86	86	73	73	73	61	61	61	56
1	98	93	89	85	91	86	83	79	74	71	69	63	61	59	52	51	49	44
2	89	81	74	68	82	75	69	64	64	60	56	54	51	48	45	43	41	36
3	81	70	63	56	74	66	59	53	56	51	46	48	44	40	40	37	34	30
4	74	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	26
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	32	28	25	22
6	62	49	41	35	57	46	38	33	40	34	29	34	29	26	29	25	22	19
7	57	45	36	30	53	42	34	29	36	30	26	31	26	23	26	22	19	17
8	53	40	32	27	49	38	31	25	33	27	23	28	23	20	24	20	17	15
9	49	37	29	24	46	35	27	23	30	24	20	26	21	18	22	18	16	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

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	1.7
10°-20°	335.0	4.8
20°-30°	506.5	7.2
30°-40°	612.9	8.7
40°-50°	647.9	9.2
50°-60°	609.8	8.7
60°-70°	505.9	7.2
70°-80°	355.4	5.1
80°-90°	203.9	2.9
90°-100°	186.0	2.7
100°-110°	285.8	4.1
110°-120°	394.5	5.6
120°-130°	475.5	6.8
130°-140°	510.9	7.3
140°-150°	490.7	7.0
150°-160°	410.3	5.8
160°-170°	273.0	3.9
170°-180°	95.6	1.4
0°-30°	958.4	13.7
0°-40°	1571.3	22.4
0°-60°	2829.0	40.3
0°-90°	3894.2	55.5
90°-120°	866.3	12.3
90°-150°	2343.3	33.4
90°-180°	3122.0	44.5
0°-180°	7016.4	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°	24	88	154	197	212	18
95°	65	118	180	218	232	66
105°	195	224	277	313	328	207
115°	349	363	404	433	443	345
125°	502	502	534	558	566	448
135°	643	648	657	677	684	498
145°	779	781	782	789	792	488
155°	891	891	890	893	890	410
165°	970	968	966	971	968	273
175°	1009	1006	1005	1010	1005	96
180°	1011	1011	1011	1011	1011	



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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°	41.4	54.3	67.2	80.1	93.1	106.4	120.1	133.9	147.6	161.3	170.5
90°	24.5	38.7	52.9	67.1	81.3	95.7	110.3	124.9	139.5	154.1	164.0
92.5°	37.7	51.0	64.2	77.5	90.7	104.5	118.6	132.8	147.0	161.2	170.5
95°	64.9	76.6	88.3	100.0	111.7	124.4	138.3	152.1	165.9	179.7	188.5
97.5°	98.2	108.2	118.2	128.2	138.2	150.1	164.0	177.9	191.8	205.7	214.4
100°	124.7	133.3	142.0	150.7	159.4	170.5	184.1	197.6	211.1	224.7	233.3
102.5°	153.4	160.7	168.0	175.3	182.6	192.8	205.9	219.1	232.3	245.4	254.0
105°	194.6	200.9	207.2	213.6	219.9	229.1	241.1	253.2	265.3	277.3	285.5
107.5°	240.4	245.7	250.9	256.2	261.4	269.5	280.3	291.2	302.1	312.9	321.0
110°	270.6	275.3	279.9	284.6	289.2	296.8	307.4	318.0	328.6	339.1	345.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	302.0	305.9	309.8	313.7	317.5	324.5	334.4	344.4	354.3	364.3	371.0
115°	349.2	351.9	354.7	357.5	360.2	366.3	375.8	385.3	394.8	404.3	410.9
117.5°	394.8	396.6	398.4	400.2	402.0	407.4	416.3	425.2	434.1	443.0	448.8
120°	424.4	426.0	427.6	429.2	430.9	435.9	444.2	452.6	461.0	469.4	474.7
122.5°	456.3	456.7	457.2	457.7	458.1	462.5	470.6	478.8	487.0	495.2	500.7
125°	502.0	501.7	501.4	501.0	500.7	504.3	511.8	519.4	526.9	534.4	539.9
127.5°	544.4	544.6	544.8	545.0	545.2	548.1	553.8	559.4	565.0	570.6	575.8
130°	573.3	573.5	573.7	573.9	574.1	576.7	581.6	586.5	591.5	596.4	601.6
132.5°	603.9	604.0	604.1	604.2	604.2	606.2	610.0	613.8	617.5	621.3	626.3
135°	643.0	644.1	645.1	646.2	647.2	648.8	651.0	653.1	655.3	657.4	662.0
137.5°	687.1	687.3	687.5	687.7	687.9	688.6	689.9	691.3	692.6	693.9	697.9
140°	716.5	716.6	716.6	716.7	716.7	716.9	717.2	717.5	717.8	718.1	721.9
142.5°	742.3	742.6	742.9	743.2	743.5	743.4	743.1	742.8	742.5	742.2	745.6
145°	779.3	779.6	780.0	780.4	780.8	781.1	781.3	781.4	781.6	781.8	783.5
147.5°	816.2	816.7	817.2	817.7	818.3	818.5	818.3	818.2	818.0	817.9	818.0
150°	838.7	839.1	839.5	839.8	840.2	840.4	840.4	840.4	840.4	840.4	840.4
152.5°	858.8	859.2	859.5	859.9	860.3	860.5	860.6	860.8	860.9	861.1	861.5
155°	891.2	891.2	891.2	891.2	891.2	891.1	891.0	890.8	890.6	890.5	891.1
157.5°	918.8	918.4	918.1	917.8	917.5	917.3	917.3	917.3	917.2	917.2	917.7
160°	935.0	934.8	934.7	934.5	934.3	934.1	934.0	933.8	933.6	933.5	934.0
162.5°	950.0	949.6	949.1	948.7	948.2	947.9	947.7	947.6	947.4	947.2	948.2
165°	970.2	969.7	969.2	968.6	968.1	967.7	967.3	967.0	966.6	966.3	967.3
167.5°	985.7	984.9	984.2	983.5	982.8	982.4	982.4	982.5	982.5	982.5	983.6
170°	994.4	993.6	992.7	991.8	991.0	990.6	990.8	991.0	991.1	991.3	992.3
172.5°	1000.7	1000.0	999.2	998.5	997.8	997.4	997.5	997.5	997.5	997.6	998.7
175°	1009.3	1008.4	1007.5	1006.7	1005.8	1005.3	1005.1	1004.9	1004.8	1004.6	1005.8
177.5°	1012.1	1011.4	1010.7	1010.0	1009.3	1009.0	1009.0	1009.0	1009.0	1009.0	1009.9
180°	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8



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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°	179.6	188.7	197.8	203.8	206.5	209.3	212.1	214.8
90°	174.0	183.9	193.9	200.3	203.1	205.9	208.7	211.5
92.5°	179.8	189.1	198.4	204.3	207.0	209.7	212.3	215.0
95°	197.3	206.2	215.0	220.8	223.5	226.3	229.1	231.8
97.5°	223.0	231.7	240.4	246.0	248.7	251.3	254.0	256.6
100°	242.0	250.6	259.3	264.7	266.8	269.0	271.1	273.3
102.5°	262.5	271.0	279.6	285.1	287.6	290.2	292.7	295.3
105°	293.7	301.9	310.1	315.7	318.7	321.7	324.7	327.6
107.5°	329.0	337.1	345.1	350.2	352.4	354.6	356.7	358.9
110°	352.6	359.3	366.0	370.9	373.8	376.8	379.8	382.8



TEST NUMBER: P332647

CATALOG NUMBER: S124DIP-S1020D810U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	377.8	384.5	391.3	395.9	398.5	401.0	403.6	406.2
115°	417.4	424.0	430.6	434.9	436.9	438.9	440.8	442.8
117.5°	454.6	460.4	466.2	470.2	472.3	474.4	476.5	478.6
120°	480.0	485.2	490.5	494.6	497.4	500.2	503.0	505.8
122.5°	506.3	511.8	517.4	520.9	522.5	524.1	525.7	527.3
125°	545.3	550.8	556.3	559.8	561.3	562.8	564.3	565.8
127.5°	581.0	586.2	591.4	594.9	596.7	598.5	600.3	602.1
130°	606.7	611.9	617.1	620.3	621.4	622.6	623.7	624.9
132.5°	631.2	636.2	641.1	644.3	645.9	647.5	649.0	650.6
135°	666.6	671.1	675.7	678.6	680.0	681.3	682.6	683.9
137.5°	702.0	706.0	710.0	712.9	714.5	716.2	717.8	719.4
140°	725.7	729.6	733.4	736.0	737.3	738.7	740.1	741.4
142.5°	749.1	752.6	756.0	758.4	759.6	760.9	762.2	763.4
145°	785.1	786.8	788.5	789.7	790.4	791.1	791.8	792.5
147.5°	818.1	818.2	818.3	818.8	819.6	820.4	821.2	822.0
150°	840.4	840.4	840.4	840.3	840.2	840.0	839.8	839.6
152.5°	861.9	862.3	862.7	862.7	862.3	861.8	861.4	860.9
155°	891.8	892.5	893.2	893.2	892.5	891.8	891.1	890.5
157.5°	918.2	918.8	919.3	919.2	918.7	918.1	917.5	916.9
160°	934.5	935.0	935.5	935.4	934.5	933.6	932.8	931.9
162.5°	949.1	950.0	951.0	951.0	950.1	949.3	948.4	947.5
165°	968.4	969.4	970.5	970.6	969.9	969.2	968.5	967.9
167.5°	984.6	985.7	986.7	986.7	985.6	984.5	983.5	982.4
170°	993.4	994.4	995.5	995.4	994.2	993.0	991.7	990.5
172.5°	999.9	1001.1	1002.3	1002.3	1001.1	999.8	998.6	997.4
175°	1007.0	1008.2	1009.5	1009.5	1008.2	1007.0	1005.8	1004.6
177.5°	1010.9	1011.9	1012.9	1012.8	1011.7	1010.6	1009.5	1008.3
180°	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8	1010.8

(END OF REPORT)