

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: P332195-840

Luminaire Tested: **S123DIW-S1000D1030U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332195-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1030U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7852.5 lumens
Efficiency: N/A
Efficacy: 128.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

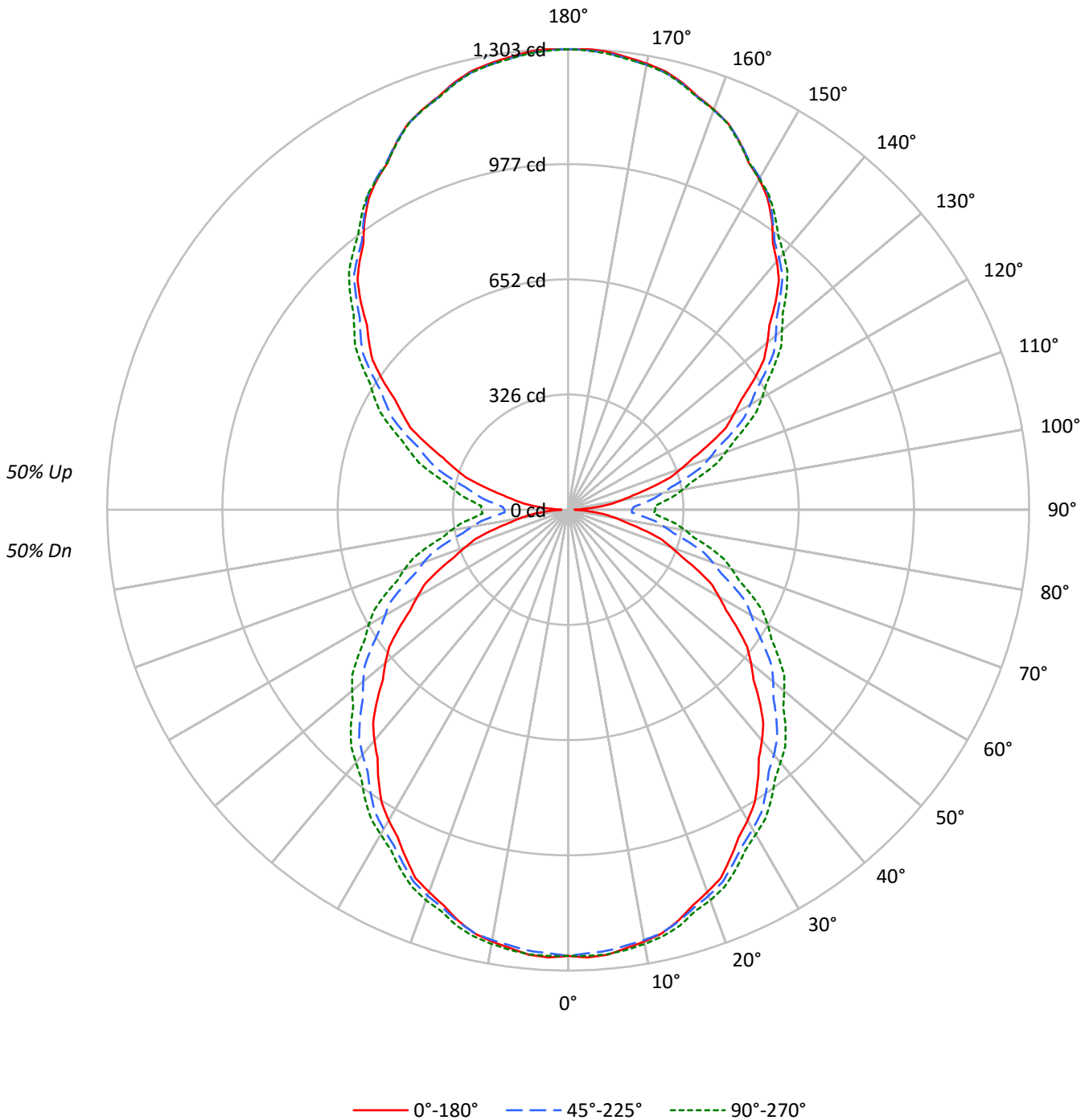
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	71	69	66	59	57	55	48	46	45	40
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	67	57	49	44	48	42	38	40	36	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	27	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°	13581	13581	13581
5°	13623	13239	13246
10°	13501	12935	12870
15°	13327	12588	12458
20°	13078	12192	12005
25°	12772	11738	11529
30°	12457	11328	11046
35°	12104	10895	10660
40°	11767	10501	10247
45°	11396	10122	9918
50°	11028	9750	9554
55°	10621	9366	9226
60°	10225	8977	8892
65°	9818	8564	8493
70°	9204	8097	8084
75°	8432	7563	7667
80°	7539	7041	7193
85°	6723	6680	6917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.6	1.5
10°-20°	341.0	4.3
20°-30°	510.0	6.5
30°-40°	609.0	7.8
40°-50°	637.2	8.1
50°-60°	598.0	7.6
60°-70°	499.4	6.4
70°-80°	357.3	4.6
80°-90°	216.9	2.8
90°-100°	218.6	2.8
100°-110°	352.2	4.5
110°-120°	497.5	6.3
120°-130°	605.6	7.7
130°-140°	655.4	8.3
140°-150°	631.3	8.0
150°-160°	528.5	6.7
160°-170°	351.8	4.5
170°-180°	123.2	1.6
0°-30°	970.6	12.4
0°-40°	1579.6	20.1
0°-60°	2814.7	35.8
0°-90°	3888.4	49.5
90°-120°	1068.3	13.6
90°-150°	2960.6	37.7
90°-180°	3964.0	50.5
0°-180°	7852.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1263	1260	1252	1262	1262	120
15°	1203	1206	1205	1218	1218	339
25°	1086	1099	1104	1121	1122	500
35°	935	956	974	994	1001	584
45°	764	797	832	857	869	589
55°	583	628	678	713	726	522
65°	403	457	517	556	572	398
75°	218	283	352	396	414	233
85°	67	136	209	254	269	71
90°	19	97	180	229	246	16
95°	75	137	212	257	272	80
105°	241	278	345	382	398	258
115°	442	463	509	541	553	437
125°	640	645	681	705	712	571
135°	828	834	847	867	873	638
145°	1003	1004	1007	1016	1018	626
155°	1147	1147	1148	1151	1145	528
165°	1249	1246	1246	1252	1245	352
175°	1299	1296	1295	1301	1294	123
180°	1302	1302	1302	1302	1302	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1267.3	1266.6	1265.8	1265.1	1264.4	1262.9	1261.0	1259.1	1257.1	1255.2	1257.1
5°	1263.1	1262.5	1261.9	1261.3	1260.7	1259.5	1257.7	1255.8	1253.9	1252.1	1254.6
7.5°	1250.7	1250.9	1251.0	1251.1	1251.2	1250.4	1248.7	1246.9	1245.1	1243.3	1246.4
10°	1239.8	1240.4	1241.0	1241.6	1242.2	1241.7	1240.2	1238.7	1237.2	1235.7	1238.7
12.5°	1226.6	1227.4	1228.3	1229.1	1230.0	1229.9	1228.9	1227.8	1226.8	1225.8	1228.6
15°	1202.6	1203.6	1204.5	1205.4	1206.3	1206.6	1206.3	1206.0	1205.7	1205.4	1208.5
17.5°	1172.5	1174.3	1176.1	1177.9	1179.7	1180.6	1180.5	1180.3	1180.2	1180.1	1182.9
20°	1150.4	1152.3	1154.1	1155.9	1157.7	1159.0	1159.6	1160.2	1160.8	1161.4	1164.2
22.5°	1127.3	1129.1	1131.0	1132.9	1134.7	1136.0	1136.9	1137.7	1138.6	1139.4	1142.9
25°	1085.8	1088.8	1092.0	1095.0	1098.0	1100.0	1101.0	1101.9	1102.8	1103.7	1107.6
27.5°	1044.0	1047.5	1051.0	1054.5	1057.9	1060.7	1062.7	1064.6	1066.5	1068.5	1072.0
30°	1014.3	1018.3	1022.3	1026.2	1030.3	1033.4	1035.9	1038.3	1040.8	1043.2	1046.9
32.5°	981.4	985.8	990.3	994.7	999.2	1003.0	1006.2	1009.4	1012.6	1015.7	1019.7
35°	934.6	939.5	944.4	949.3	954.2	958.6	962.6	966.5	970.5	974.5	979.1
37.5°	885.1	890.7	896.2	901.6	907.2	912.3	917.3	922.1	927.0	931.9	937.1
40°	852.1	857.7	863.1	868.7	874.1	880.0	886.1	892.2	898.3	904.4	909.6
42.5°	815.9	822.6	829.3	836.1	842.7	849.3	855.7	862.0	868.4	874.7	880.4
45°	764.2	771.5	778.9	786.2	793.6	801.0	808.6	816.3	823.9	831.5	837.4
47.5°	710.0	718.3	726.7	735.0	743.3	751.8	760.5	769.3	778.0	786.8	793.2
50°	674.9	683.4	692.0	700.5	709.0	718.1	727.5	737.0	746.5	756.0	763.0
52.5°	637.4	646.5	655.6	664.6	673.7	683.4	693.9	704.3	714.7	725.2	732.5
55°	582.8	592.9	602.9	613.0	623.1	633.6	644.6	655.6	666.6	677.6	685.9
57.5°	529.5	540.0	550.5	561.0	571.5	582.8	594.8	606.8	618.8	630.9	639.1
60°	492.1	503.0	514.0	525.0	536.0	547.8	560.3	572.9	585.4	597.9	606.4
62.5°	456.9	468.1	479.4	490.6	501.8	514.1	527.4	540.6	553.8	567.1	575.6
65°	402.7	414.7	426.6	438.5	450.4	463.0	476.5	489.9	503.3	516.8	525.9
67.5°	347.7	360.4	373.0	385.7	398.3	411.5	425.2	438.9	452.5	466.3	476.3
70°	309.2	322.3	335.5	348.7	361.8	375.7	390.3	405.1	419.7	434.3	444.1
72.5°	274.1	287.2	300.3	313.5	326.6	340.7	355.9	371.0	386.2	401.3	411.3
75°	218.5	232.9	247.2	261.7	276.0	290.7	306.1	321.3	336.6	351.8	361.9
77.5°	170.2	184.6	199.1	213.6	228.0	243.0	258.4	273.8	289.2	304.6	315.2
80°	136.0	151.1	166.0	181.0	195.9	211.4	227.2	243.2	259.0	274.9	285.3
82.5°	106.3	121.6	136.8	152.0	167.2	182.9	199.0	215.1	231.3	247.4	257.8
85°	67.4	82.6	97.9	113.2	128.5	144.2	160.4	176.5	192.7	208.9	219.3
87.5°	36.8	52.4	68.1	83.7	99.5	115.3	131.5	147.6	163.8	180.1	190.6
90°	18.9	36.2	53.3	70.6	87.9	105.7	124.3	142.8	161.4	179.9	191.2
92.5°	41.5	56.6	71.6	86.6	101.7	117.8	134.7	151.8	168.7	185.8	196.7
95°	75.4	89.0	102.5	116.0	129.5	144.6	161.4	178.2	195.0	211.8	222.2
97.5°	120.7	132.6	144.5	156.5	168.4	182.2	197.8	213.4	229.0	244.7	254.8
100°	151.5	162.7	173.8	184.9	196.1	209.2	224.4	239.6	254.8	269.9	279.5
102.5°	187.2	196.8	206.5	216.1	225.7	238.1	253.5	268.8	284.1	299.4	308.7
105°	241.2	248.9	256.8	264.6	272.4	283.8	299.0	314.2	329.3	344.6	353.0
107.5°	302.6	309.1	315.6	322.0	328.6	338.5	351.7	365.1	378.3	391.6	400.5
110°	340.7	346.7	352.6	358.6	364.6	373.9	386.6	399.2	411.9	424.5	433.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.7	386.5	391.2	396.1	400.8	409.2	421.0	432.8	444.6	456.5	465.2
115°	441.7	446.1	450.4	454.7	459.1	466.6	477.1	487.6	498.2	508.7	516.2
117.5°	503.2	505.9	508.7	511.4	514.1	520.3	530.1	539.8	549.5	559.3	566.4
120°	540.6	543.5	546.3	549.3	552.2	558.1	567.0	575.9	584.9	593.8	600.7
122.5°	580.7	582.5	584.3	586.0	587.8	593.3	602.3	611.3	620.3	629.2	635.4
125°	640.5	641.2	641.9	642.6	643.2	647.7	656.2	664.6	673.0	681.4	686.9
127.5°	697.0	698.1	699.2	700.4	701.6	705.6	712.4	719.2	726.1	732.9	737.7
130°	734.6	736.1	737.6	739.1	740.6	744.2	749.6	755.0	760.4	765.9	770.7
132.5°	771.1	773.0	774.7	776.5	778.2	781.2	785.7	790.0	794.5	798.8	803.2
135°	828.4	829.5	830.5	831.6	832.6	834.8	837.9	841.0	844.1	847.3	851.8
137.5°	881.3	882.2	883.1	884.0	884.9	886.6	889.1	891.5	894.0	896.6	900.4
140°	917.1	918.2	919.4	920.5	921.6	922.7	923.9	925.0	926.1	927.4	931.7
142.5°	950.6	951.5	952.4	953.3	954.2	954.9	955.5	956.1	956.7	957.3	961.2
145°	1003.0	1003.1	1003.3	1003.4	1003.6	1004.0	1004.7	1005.4	1006.0	1006.7	1009.0
147.5°	1047.4	1048.2	1049.0	1050.0	1050.8	1051.5	1052.1	1052.8	1053.4	1054.0	1054.7
150°	1079.3	1079.8	1080.3	1080.8	1081.2	1081.7	1082.1	1082.6	1083.0	1083.5	1083.5
152.5°	1105.6	1106.2	1106.8	1107.5	1108.1	1108.5	1108.8	1109.1	1109.4	1109.6	1110.0
155°	1146.9	1146.9	1146.9	1146.9	1146.9	1147.0	1147.2	1147.5	1147.7	1147.9	1148.8
157.5°	1182.1	1181.8	1181.5	1181.2	1181.0	1180.9	1181.1	1181.3	1181.5	1181.6	1182.7
160°	1204.2	1203.8	1203.3	1202.9	1202.3	1202.1	1202.1	1202.1	1202.1	1202.1	1203.3
162.5°	1223.9	1223.2	1222.5	1221.9	1221.3	1221.0	1221.2	1221.4	1221.6	1221.8	1222.9
165°	1249.2	1248.5	1247.9	1247.2	1246.5	1246.2	1246.2	1246.2	1246.2	1246.2	1247.5
167.5°	1269.5	1268.6	1267.7	1266.8	1265.9	1265.5	1265.7	1265.9	1266.1	1266.2	1267.6
170°	1280.9	1280.0	1279.1	1278.2	1277.3	1276.9	1276.9	1276.9	1276.9	1276.9	1278.4
172.5°	1289.9	1289.0	1288.1	1287.2	1286.3	1285.9	1285.9	1285.9	1285.9	1285.9	1287.3
175°	1299.4	1298.5	1297.6	1296.7	1295.8	1295.3	1295.3	1295.3	1295.3	1295.3	1296.7
177.5°	1303.2	1302.5	1301.8	1301.0	1300.3	1300.0	1300.0	1300.0	1300.0	1300.0	1301.0
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1259.1	1261.0	1262.9	1263.8	1263.5	1263.3	1263.1	1262.8
5°	1257.0	1259.5	1261.9	1262.9	1262.6	1262.3	1262.0	1261.7
7.5°	1249.4	1252.5	1255.6	1256.9	1256.6	1256.2	1255.8	1255.5
10°	1241.7	1244.8	1247.9	1249.1	1248.5	1247.9	1247.3	1246.7
12.5°	1231.3	1234.2	1237.0	1238.1	1237.5	1236.9	1236.3	1235.7
15°	1211.5	1214.6	1217.6	1219.0	1218.7	1218.4	1218.1	1217.8
17.5°	1185.6	1188.4	1191.1	1192.2	1191.8	1191.4	1191.0	1190.5
20°	1166.9	1169.6	1172.5	1174.0	1174.3	1174.6	1174.9	1175.2
22.5°	1146.4	1149.8	1153.4	1155.0	1154.8	1154.7	1154.5	1154.3
25°	1111.7	1115.6	1119.5	1121.6	1121.6	1121.6	1121.6	1121.6
27.5°	1075.3	1078.7	1082.2	1084.0	1084.3	1084.5	1084.8	1085.0
30°	1050.6	1054.2	1057.8	1059.8	1059.8	1059.8	1059.8	1059.8
32.5°	1023.6	1027.4	1031.4	1033.7	1034.4	1035.1	1035.9	1036.6
35°	983.6	988.3	992.8	995.7	996.9	998.2	999.4	1000.6
37.5°	942.3	947.5	952.7	955.7	956.7	957.7	958.7	959.7
40°	914.7	920.0	925.1	928.4	929.6	930.8	932.0	933.2
42.5°	886.1	891.7	897.5	901.1	902.8	904.5	906.3	908.0
45°	843.1	849.0	854.7	858.9	861.3	863.7	866.3	868.7
47.5°	799.8	806.4	812.8	817.1	819.0	820.9	822.7	824.7
50°	770.0	777.0	784.1	788.6	790.8	792.9	795.1	797.2
52.5°	739.7	747.0	754.3	759.2	761.8	764.5	767.1	769.7
55°	694.1	702.4	710.6	715.9	718.4	720.8	723.3	725.7
57.5°	647.5	655.8	664.1	669.7	672.6	675.4	678.3	681.2
60°	615.0	623.6	632.1	638.0	641.5	644.8	648.1	651.5
62.5°	584.2	592.8	601.3	607.1	610.3	613.4	616.5	619.7
65°	535.1	544.3	553.4	559.6	562.6	565.6	568.8	571.8
67.5°	486.3	496.2	506.2	512.6	515.1	517.8	520.3	522.8
70°	453.8	463.6	473.4	479.9	482.9	485.9	489.0	492.1
72.5°	421.4	431.4	441.4	448.0	451.0	454.0	457.2	460.2
75°	372.0	382.1	392.1	399.1	402.7	406.4	410.0	413.7
77.5°	325.9	336.5	347.1	353.9	356.6	359.4	362.2	365.1
80°	295.7	306.1	316.4	323.2	326.2	329.2	332.3	335.4
82.5°	268.2	278.5	288.9	295.7	298.7	301.7	304.8	307.9
85°	229.6	240.0	250.4	257.2	260.2	263.3	266.3	269.4
87.5°	201.2	211.7	222.3	229.1	232.3	235.4	238.5	241.8
90°	202.5	213.8	225.0	232.5	236.0	239.4	243.0	246.5
92.5°	207.5	218.4	229.2	236.0	238.5	241.1	243.6	246.1
95°	232.6	242.9	253.3	260.0	263.1	266.1	269.1	272.3
97.5°	265.0	275.1	285.3	291.8	294.8	297.7	300.7	303.7
100°	289.0	298.6	308.1	314.7	318.2	321.6	325.2	328.7
102.5°	318.0	327.3	336.6	342.7	345.7	348.6	351.6	354.6
105°	361.6	370.2	378.7	384.7	387.8	391.0	394.3	397.5
107.5°	409.4	418.4	427.3	432.9	435.4	437.8	440.2	442.6
110°	442.2	451.1	460.0	465.3	467.4	469.4	471.4	473.3



TEST NUMBER: P332195-840

CATALOG NUMBER: S123DIW-S1000D1030U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	474.0	482.8	491.6	497.3	499.9	502.5	505.0	507.7
115°	523.8	531.4	539.0	543.8	546.0	548.3	550.5	552.7
117.5°	573.7	580.9	588.1	592.6	594.3	596.1	597.8	599.6
120°	607.4	614.2	621.1	625.3	626.9	628.6	630.4	632.0
122.5°	641.7	647.8	654.0	657.8	659.3	660.9	662.4	663.9
125°	692.4	697.9	703.4	706.8	708.0	709.2	710.4	711.7
127.5°	742.5	747.2	751.9	754.9	755.9	757.0	758.0	759.0
130°	775.7	780.5	785.5	788.0	788.2	788.5	788.7	789.0
132.5°	807.8	812.2	816.7	819.3	820.2	821.0	821.9	822.7
135°	856.5	861.0	865.7	868.5	869.5	870.6	871.6	872.7
137.5°	904.2	908.2	912.0	914.2	914.9	915.6	916.3	917.0
140°	936.0	940.4	944.7	946.8	946.8	946.7	946.6	946.6
142.5°	965.0	968.9	972.8	974.8	975.1	975.4	975.7	976.0
145°	1011.2	1013.4	1015.6	1016.8	1017.1	1017.5	1017.8	1018.1
147.5°	1055.5	1056.2	1056.9	1057.1	1056.9	1056.6	1056.4	1056.1
150°	1083.5	1083.5	1083.5	1083.1	1082.4	1081.6	1080.9	1080.1
152.5°	1110.3	1110.8	1111.2	1110.8	1109.7	1108.6	1107.6	1106.5
155°	1149.7	1150.6	1151.5	1151.2	1149.6	1148.0	1146.5	1144.9
157.5°	1183.6	1184.6	1185.5	1185.4	1184.1	1182.9	1181.5	1180.2
160°	1204.5	1205.6	1206.7	1206.8	1205.9	1205.0	1204.1	1203.2
162.5°	1224.1	1225.2	1226.4	1226.2	1224.8	1223.2	1221.8	1220.3
165°	1248.9	1250.2	1251.6	1251.5	1249.9	1248.3	1246.7	1245.2
167.5°	1269.0	1270.4	1271.8	1271.8	1270.4	1269.0	1267.6	1266.2
170°	1280.0	1281.6	1283.2	1283.2	1281.6	1280.0	1278.4	1276.9
172.5°	1288.7	1290.1	1291.5	1291.4	1289.8	1288.2	1286.6	1285.1
175°	1298.0	1299.4	1300.7	1300.6	1299.0	1297.4	1295.9	1294.2
177.5°	1302.1	1303.2	1304.3	1304.2	1302.9	1301.7	1300.4	1299.2
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4

(END OF REPORT)