

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: P332225-927

Luminaire Tested: **S123DIW-S1165D1030U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332225-927
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-S1165D1030U927-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 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: 6675.1 lumens
Efficiency: N/A
Efficacy: 99.0 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

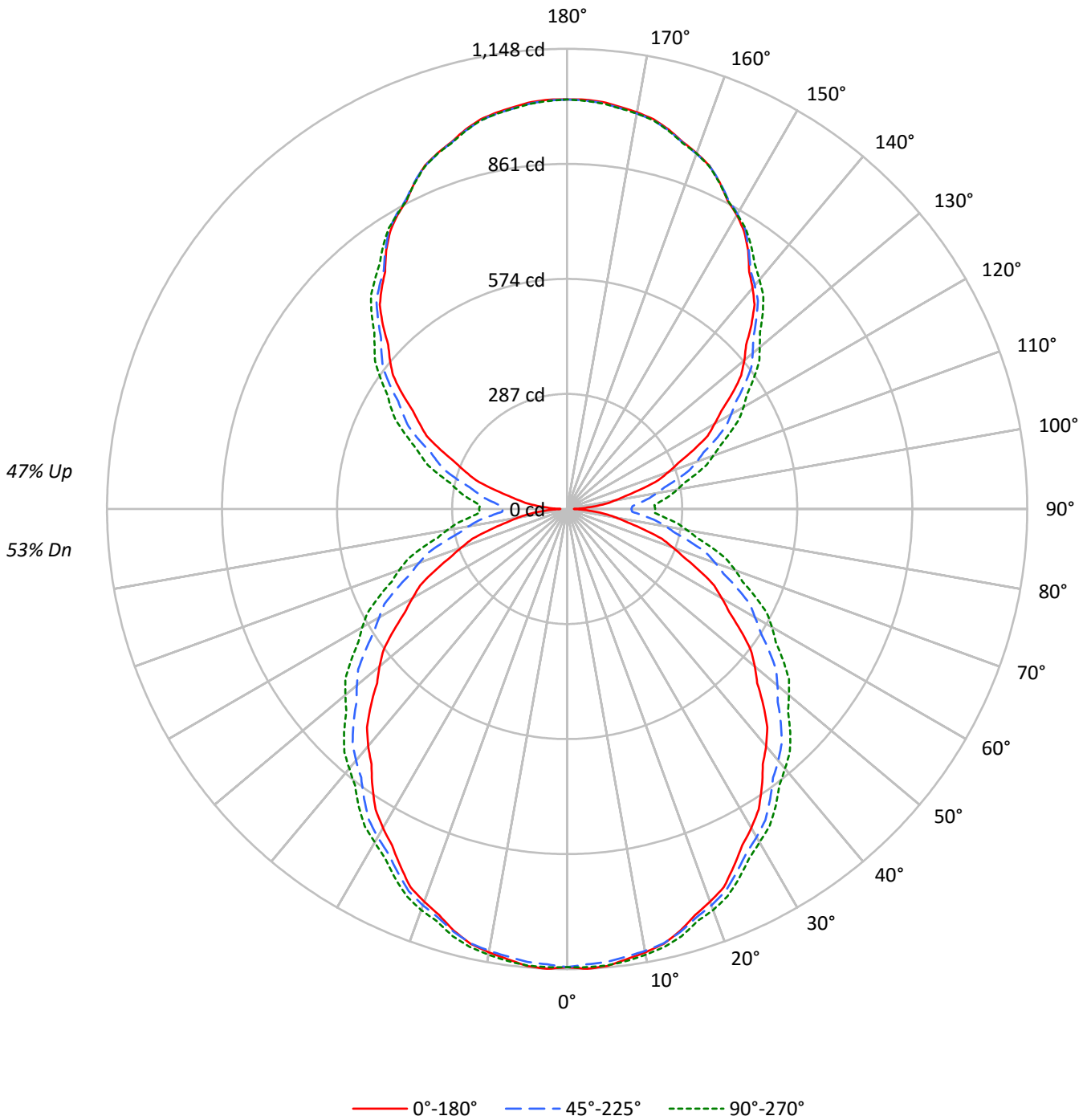
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	49	47	42
2	88	80	73	68	81	74	68	63	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	29	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	25	22	25	21	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	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	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12304	12304	12304
5°	12343	11994	12001
10°	12232	11718	11659
15°	12075	11405	11287
20°	11849	11047	10876
25°	11571	10634	10444
30°	11287	10264	10006
35°	10967	9871	9658
40°	10663	9514	9284
45°	10325	9172	8985
50°	9990	8832	8655
55°	9622	8486	8359
60°	9263	8134	8056
65°	8896	7758	7694
70°	8341	7336	7323
75°	7640	6853	6946
80°	6835	6380	6515
85°	6085	6053	6268



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.4	1.6
10°-20°	308.9	4.6
20°-30°	462.0	6.9
30°-40°	551.8	8.3
40°-50°	577.3	8.6
50°-60°	541.7	8.1
60°-70°	452.5	6.8
70°-80°	323.7	4.8
80°-90°	196.1	2.9
90°-100°	187.7	2.8
100°-110°	288.2	4.3
110°-120°	398.3	6.0
120°-130°	479.6	7.2
130°-140°	516.2	7.7
140°-150°	495.7	7.4
150°-160°	414.6	6.2
160°-170°	275.9	4.1
170°-180°	96.6	1.4
0°-30°	879.3	13.2
0°-40°	1431.1	21.4
0°-60°	2550.1	38.2
0°-90°	3522.4	52.8
90°-120°	874.2	13.1
90°-150°	2365.6	35.4
90°-180°	3153.0	47.2
0°-180°	6675.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1144	1142	1134	1144	1143	108
15°	1090	1093	1092	1104	1103	307
25°	984	996	1000	1015	1016	453
35°	847	866	883	901	906	529
45°	692	722	753	776	787	534
55°	528	569	614	646	658	473
65°	365	414	468	504	518	360
75°	198	257	319	358	375	212
85°	61	124	189	230	244	64
90°	17	86	160	204	220	14
95°	61	116	183	223	237	64
105°	190	224	283	316	330	203
115°	347	366	408	437	448	344
125°	503	507	540	562	568	449
135°	650	654	667	685	690	501
145°	787	787	790	798	801	491
155°	900	900	900	903	898	414
165°	980	978	978	982	977	276
175°	1019	1016	1016	1020	1015	97
180°	1022	1022	1022	1022	1022	



TEST NUMBER: P332225-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1148.1	1147.5	1146.8	1146.1	1145.4	1144.2	1142.5	1140.7	1138.9	1137.2	1138.9
5°	1144.4	1143.8	1143.3	1142.7	1142.2	1141.1	1139.4	1137.7	1136.1	1134.4	1136.6
7.5°	1133.1	1133.3	1133.4	1133.5	1133.6	1132.9	1131.2	1129.7	1128.1	1126.4	1129.2
10°	1123.2	1123.8	1124.3	1124.9	1125.5	1125.0	1123.6	1122.2	1120.9	1119.4	1122.2
12.5°	1111.3	1112.0	1112.8	1113.6	1114.4	1114.3	1113.3	1112.4	1111.4	1110.5	1113.0
15°	1089.6	1090.4	1091.2	1092.1	1092.9	1093.2	1092.9	1092.7	1092.3	1092.1	1094.9
17.5°	1062.2	1063.8	1065.5	1067.1	1068.8	1069.6	1069.5	1069.4	1069.3	1069.1	1071.7
20°	1042.3	1043.9	1045.6	1047.3	1048.9	1050.0	1050.6	1051.1	1051.7	1052.3	1054.7
22.5°	1021.4	1023.0	1024.7	1026.4	1028.0	1029.2	1030.0	1030.8	1031.5	1032.3	1035.5
25°	983.7	986.5	989.3	992.0	994.8	996.6	997.4	998.2	999.1	999.9	1003.5
27.5°	945.9	949.0	952.2	955.4	958.5	961.0	962.7	964.5	966.3	968.0	971.1
30°	919.0	922.6	926.1	929.8	933.3	936.3	938.5	940.7	942.9	945.2	948.5
32.5°	889.1	893.1	897.1	901.2	905.2	908.7	911.6	914.5	917.3	920.2	923.8
35°	846.8	851.2	855.6	860.1	864.5	868.5	872.1	875.7	879.2	882.9	887.0
37.5°	801.9	806.9	811.9	816.9	821.9	826.6	831.0	835.4	839.9	844.3	849.0
40°	772.1	777.1	782.0	787.0	791.9	797.3	802.8	808.3	813.8	819.4	824.1
42.5°	739.2	745.3	751.4	757.4	763.5	769.4	775.2	780.9	786.7	792.5	797.6
45°	692.4	699.0	705.6	712.3	718.9	725.7	732.6	739.5	746.5	753.4	758.6
47.5°	643.3	650.8	658.3	665.9	673.4	681.1	689.0	697.0	704.9	712.8	718.7
50°	611.4	619.2	626.9	634.6	642.4	650.5	659.2	667.7	676.3	684.8	691.3
52.5°	577.6	585.7	593.9	602.1	610.3	619.2	628.6	638.0	647.5	657.0	663.6
55°	528.0	537.1	546.2	555.4	564.5	574.0	584.0	594.0	604.0	613.9	621.4
57.5°	479.7	489.2	498.7	508.2	517.8	528.0	538.8	549.8	560.6	571.6	579.1
60°	445.8	455.7	465.7	475.7	485.6	496.3	507.6	519.0	530.4	541.7	549.5
62.5°	413.9	424.1	434.3	444.5	454.6	465.7	477.8	489.7	501.8	513.8	521.5
65°	364.9	375.7	386.4	397.2	408.1	419.5	431.7	443.9	456.1	468.2	476.5
67.5°	315.1	326.5	337.9	349.4	360.8	372.8	385.2	397.6	410.0	422.4	431.4
70°	280.2	292.1	304.0	315.8	327.8	340.4	353.6	366.9	380.2	393.5	402.3
72.5°	248.3	260.2	272.1	284.0	295.9	308.7	322.4	336.1	349.9	363.6	372.7
75°	198.0	211.0	224.0	237.0	250.0	263.4	277.3	291.1	304.9	318.8	327.9
77.5°	154.2	167.3	180.4	193.5	206.6	220.1	234.1	248.0	262.0	275.9	285.6
80°	123.3	136.8	150.4	164.0	177.5	191.5	205.9	220.3	234.6	249.1	258.5
82.5°	96.4	110.2	124.0	137.8	151.5	165.7	180.3	195.0	209.5	224.1	233.5
85°	61.0	74.9	88.7	102.5	116.4	130.6	145.3	159.9	174.6	189.3	198.7
87.5°	33.3	47.5	61.6	75.7	89.8	104.2	118.7	133.3	147.9	162.5	172.1
90°	17.0	32.3	47.7	63.1	78.3	94.3	110.7	127.1	143.5	159.9	170.1
92.5°	34.6	48.1	61.5	74.9	88.4	102.7	118.0	133.2	148.4	163.6	173.3
95°	61.1	73.1	85.2	97.2	109.2	122.7	137.7	152.7	167.7	182.7	191.9
97.5°	96.3	106.9	117.6	128.3	138.9	151.3	165.3	179.3	193.3	207.2	216.3
100°	120.3	130.3	140.2	150.1	160.0	171.8	185.4	199.1	212.7	226.3	234.9
102.5°	148.2	156.9	165.5	174.1	182.7	193.8	207.6	221.3	234.9	248.6	256.9
105°	190.5	197.6	204.5	211.5	218.6	228.8	242.2	255.8	269.3	282.8	290.6
107.5°	238.4	244.3	250.2	256.0	261.9	270.8	282.7	294.7	306.6	318.5	326.5
110°	268.3	273.6	279.0	284.3	289.6	298.0	309.4	320.9	332.3	343.7	351.6



TEST NUMBER: P332225-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	300.4	304.8	309.0	313.3	317.7	325.2	335.9	346.6	357.3	368.0	375.7
115°	347.3	351.2	355.1	358.9	362.7	369.5	379.1	388.6	398.3	407.9	414.7
117.5°	395.5	397.9	400.4	402.7	405.2	410.8	419.7	428.6	437.4	446.4	452.9
120°	424.7	427.1	429.6	432.1	434.5	439.9	448.1	456.4	464.6	472.9	479.0
122.5°	456.2	457.7	459.2	460.7	462.2	467.1	475.3	483.5	491.7	499.9	505.6
125°	503.0	503.4	504.0	504.5	505.1	509.2	516.8	524.5	532.2	539.9	544.9
127.5°	547.2	548.1	549.0	549.9	550.7	554.3	560.5	566.7	573.0	579.2	583.8
130°	576.8	577.9	579.1	580.2	581.4	584.5	589.5	594.5	599.4	604.4	609.0
132.5°	605.3	606.7	608.1	609.4	610.8	613.5	617.5	621.5	625.6	629.6	633.8
135°	650.1	650.9	651.7	652.5	653.3	655.1	658.1	660.9	663.8	666.6	670.9
137.5°	691.7	692.3	693.0	693.6	694.3	695.8	697.9	700.1	702.3	704.5	708.1
140°	719.5	720.4	721.4	722.2	723.1	724.1	725.1	726.1	727.1	728.1	732.1
142.5°	745.8	746.6	747.2	747.9	748.5	749.2	749.6	750.1	750.6	751.1	754.6
145°	787.0	787.0	787.1	787.2	787.3	787.6	788.1	788.7	789.2	789.7	791.8
147.5°	821.7	822.3	822.9	823.6	824.3	824.8	825.3	825.9	826.3	826.8	827.4
150°	846.7	847.1	847.4	847.8	848.1	848.5	848.8	849.2	849.5	849.9	849.9
152.5°	867.3	867.8	868.2	868.8	869.3	869.6	869.8	870.1	870.3	870.4	870.8
155°	899.7	899.7	899.7	899.7	899.7	899.8	899.9	900.2	900.3	900.5	901.2
157.5°	927.3	927.1	926.9	926.6	926.5	926.4	926.5	926.7	926.9	926.9	927.7
160°	944.6	944.3	943.9	943.6	943.2	943.0	943.0	943.0	943.0	943.0	943.9
162.5°	960.0	959.6	959.0	958.5	958.1	957.8	958.0	958.1	958.3	958.5	959.3
165°	979.9	979.4	978.9	978.3	977.8	977.6	977.6	977.6	977.6	977.6	978.6
167.5°	995.9	995.1	994.4	993.7	993.0	992.7	992.8	993.0	993.2	993.2	994.3
170°	1004.8	1004.1	1003.4	1002.7	1002.0	1001.6	1001.6	1001.6	1001.6	1001.6	1002.8
172.5°	1011.9	1011.1	1010.4	1009.7	1009.0	1008.7	1008.7	1008.7	1008.7	1008.7	1009.8
175°	1019.3	1018.6	1017.9	1017.2	1016.4	1016.1	1016.1	1016.1	1016.1	1016.1	1017.2
177.5°	1022.3	1021.8	1021.2	1020.6	1020.0	1019.8	1019.8	1019.8	1019.8	1019.8	1020.6
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7



TEST NUMBER: P332225-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1140.7	1142.5	1144.2	1145.0	1144.8	1144.5	1144.3	1144.1
5°	1138.8	1141.1	1143.3	1144.2	1144.0	1143.7	1143.4	1143.1
7.5°	1131.9	1134.7	1137.5	1138.8	1138.4	1138.0	1137.7	1137.4
10°	1125.0	1127.8	1130.5	1131.6	1131.1	1130.5	1130.0	1129.4
12.5°	1115.6	1118.2	1120.7	1121.7	1121.1	1120.5	1120.0	1119.4
15°	1097.6	1100.3	1103.1	1104.4	1104.1	1103.8	1103.6	1103.3
17.5°	1074.1	1076.7	1079.1	1080.1	1079.8	1079.4	1079.0	1078.6
20°	1057.2	1059.7	1062.2	1063.6	1063.8	1064.1	1064.4	1064.7
22.5°	1038.6	1041.8	1044.9	1046.4	1046.2	1046.1	1045.9	1045.8
25°	1007.1	1010.7	1014.3	1016.1	1016.1	1016.1	1016.1	1016.1
27.5°	974.2	977.3	980.4	982.1	982.3	982.5	982.8	983.0
30°	951.8	955.1	958.4	960.0	960.0	960.0	960.0	960.0
32.5°	927.3	930.9	934.4	936.5	937.2	937.9	938.5	939.1
35°	891.2	895.3	899.4	902.1	903.2	904.4	905.5	906.5
37.5°	853.7	858.4	863.1	865.9	866.8	867.7	868.5	869.4
40°	828.8	833.5	838.2	841.1	842.2	843.3	844.4	845.5
42.5°	802.8	807.9	813.1	816.4	817.9	819.5	821.0	822.6
45°	763.9	769.1	774.4	778.2	780.4	782.6	784.8	787.0
47.5°	724.6	730.6	736.5	740.3	742.0	743.7	745.4	747.1
50°	697.6	704.0	710.3	714.5	716.4	718.4	720.3	722.2
52.5°	670.2	676.8	683.3	687.9	690.2	692.6	695.0	697.4
55°	628.8	636.3	643.8	648.6	650.9	653.1	655.3	657.5
57.5°	586.6	594.1	601.7	606.7	609.3	612.0	614.6	617.1
60°	557.1	564.9	572.7	578.1	581.1	584.2	587.2	590.3
62.5°	529.3	537.0	544.8	550.1	552.9	555.7	558.6	561.3
65°	484.8	493.1	501.5	506.9	509.7	512.5	515.2	518.0
67.5°	440.5	449.6	458.7	464.4	466.8	469.1	471.3	473.7
70°	411.2	420.1	428.9	434.7	437.5	440.3	443.0	445.8
72.5°	381.8	390.9	399.9	405.8	408.6	411.4	414.2	416.9
75°	337.1	346.2	355.3	361.6	364.9	368.2	371.5	374.8
77.5°	295.2	304.8	314.5	320.5	323.1	325.7	328.2	330.7
80°	267.8	277.3	286.7	292.8	295.6	298.3	301.1	303.8
82.5°	243.0	252.4	261.7	267.8	270.6	273.4	276.2	278.9
85°	208.1	217.5	226.9	233.0	235.8	238.5	241.3	244.1
87.5°	181.6	191.2	200.7	206.9	209.8	212.5	215.4	218.2
90°	180.2	190.4	200.4	207.1	210.2	213.3	216.4	219.6
92.5°	183.1	192.8	202.6	208.7	211.0	213.3	215.6	217.9
95°	201.2	210.6	219.8	225.9	228.6	231.4	234.2	236.9
97.5°	225.4	234.5	243.5	249.4	252.1	254.8	257.5	260.2
100°	243.4	252.0	260.5	266.4	269.5	272.7	275.8	278.9
102.5°	265.3	273.6	281.9	287.5	290.2	292.9	295.6	298.3
105°	298.3	306.0	313.8	319.1	321.9	324.8	327.6	330.5
107.5°	334.5	342.5	350.5	355.6	357.8	360.0	362.3	364.5
110°	359.6	367.5	375.3	380.2	382.1	384.0	385.8	387.7



TEST NUMBER: P332225-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	383.6	391.4	399.3	404.3	406.7	409.1	411.5	413.8
115°	421.5	428.3	435.1	439.6	441.6	443.7	445.7	447.7
117.5°	459.5	466.0	472.5	476.7	478.3	480.0	481.6	483.3
120°	485.2	491.4	497.6	501.5	503.0	504.6	506.2	507.8
122.5°	511.4	517.0	522.7	526.2	527.7	529.1	530.5	532.0
125°	550.0	555.2	560.2	563.4	564.6	565.9	567.0	568.3
127.5°	588.2	592.7	597.1	599.9	601.0	602.1	603.1	604.2
130°	613.5	618.1	622.7	625.1	625.5	625.9	626.3	626.8
132.5°	638.0	642.1	646.3	648.9	649.8	650.8	651.6	652.6
135°	675.2	679.5	683.7	686.3	687.4	688.4	689.4	690.5
137.5°	711.7	715.3	719.0	721.1	721.8	722.5	723.3	724.0
140°	736.0	740.0	744.0	746.1	746.2	746.3	746.5	746.6
142.5°	758.1	761.7	765.2	767.1	767.6	768.0	768.4	768.9
145°	793.8	795.8	797.9	799.1	799.5	799.9	800.3	800.7
147.5°	828.1	828.8	829.5	829.7	829.7	829.7	829.6	829.5
150°	849.9	849.9	849.9	849.7	849.1	848.7	848.1	847.6
152.5°	871.0	871.3	871.6	871.3	870.5	869.7	868.9	868.1
155°	901.9	902.6	903.3	903.1	901.8	900.6	899.4	898.1
157.5°	928.4	929.2	929.9	929.9	928.8	927.9	926.9	925.8
160°	944.8	945.7	946.6	946.7	945.9	945.2	944.5	943.8
162.5°	960.2	961.1	962.0	961.9	960.8	959.6	958.5	957.3
165°	979.7	980.7	981.8	981.8	980.5	979.2	977.9	976.8
167.5°	995.5	996.6	997.7	997.7	996.6	995.5	994.3	993.2
170°	1004.1	1005.4	1006.6	1006.6	1005.4	1004.1	1002.8	1001.6
172.5°	1010.9	1012.0	1013.1	1013.0	1011.8	1010.5	1009.2	1008.1
175°	1018.2	1019.3	1020.3	1020.3	1019.0	1017.7	1016.5	1015.3
177.5°	1021.4	1022.3	1023.2	1023.1	1022.1	1021.1	1020.1	1019.1
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7

(END OF REPORT)