

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: P331602-930

Luminaire Tested: **S122DIW-S1005D970U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331602-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D970U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6046.1 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

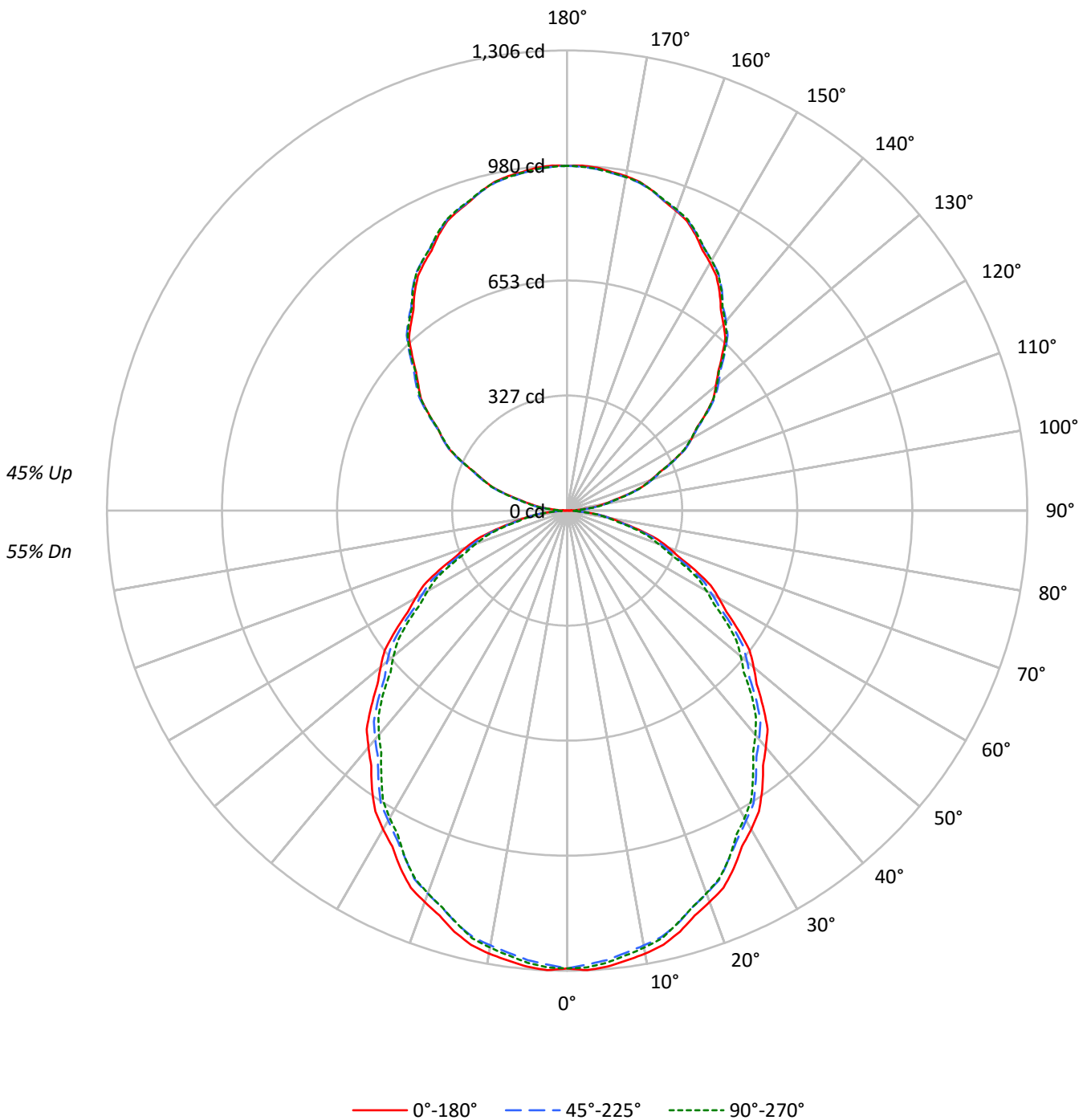
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	86	86	86	73	73	73	60	60	60	55
1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	53	52	51	46
2	90	83	76	71	83	77	71	67	66	62	58	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32	28
5	69	57	49	43	64	54	46	41	46	41	36	40	35	32	34	30	28	24
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	30	27	24	21
7	59	46	38	33	54	44	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	25	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20980	20980	20980
5°	21060	20757	20879
10°	20935	20546	20649
15°	20677	20279	20259
20°	20309	19880	19859
25°	19946	19388	19388
30°	19475	18938	18776
35°	19036	18398	18126
40°	18487	17856	17513
45°	17945	17317	16890
50°	17357	16759	16164
55°	16743	16110	15510
60°	16059	15332	14767
65°	15320	14560	13891
70°	14389	13624	12977
75°	13094	12545	12239
80°	11623	11269	10693
85°	9485	9040	8096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.2	2.0
10°-20°	343.8	5.7
20°-30°	505.4	8.4
30°-40°	587.0	9.7
40°-50°	586.4	9.7
50°-60°	511.4	8.5
60°-70°	378.1	6.3
70°-80°	214.2	3.5
80°-90°	61.5	1.0
90°-100°	62.0	1.0
100°-110°	192.6	3.2
110°-120°	329.2	5.4
120°-130°	432.9	7.2
130°-140°	485.9	8.0
140°-150°	476.4	7.9
150°-160°	399.6	6.6
160°-170°	265.0	4.4
170°-180°	92.6	1.5
0°-30°	971.4	16.1
0°-40°	1558.4	25.8
0°-60°	2656.1	43.9
0°-90°	3309.9	54.7
90°-120°	583.8	9.7
90°-150°	1979.0	32.7
90°-180°	2736.0	45.3
0°-180°	6046.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1299	1299	1299	1299	1299	
5°	1299	1294	1281	1290	1288	123
15°	1237	1229	1213	1218	1212	348
25°	1120	1109	1088	1090	1088	515
35°	966	953	933	926	920	603
45°	786	777	758	745	740	606
55°	595	587	572	558	551	532
65°	401	393	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	1	11	29	27	28	5
95°	43	51	53	53	51	49
105°	178	180	182	183	183	188
115°	330	335	334	333	330	327
125°	481	488	486	483	482	429
135°	622	630	632	632	629	480
145°	755	760	766	766	763	471
155°	863	865	868	872	870	397
165°	939	938	938	943	940	265
175°	977	974	973	978	974	93
180°	978	978	978	978	978	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1305.5	1304.3	1303.3	1302.1	1301.0	1299.3	1296.8	1294.4	1291.9	1289.5	1291.7
5°	1299.4	1298.4	1297.2	1296.1	1295.0	1292.9	1289.9	1286.8	1283.8	1280.7	1283.0
7.5°	1287.9	1286.2	1284.5	1282.8	1281.1	1278.6	1275.5	1272.4	1269.3	1266.2	1268.4
10°	1276.9	1275.0	1273.1	1271.1	1269.2	1266.6	1263.2	1259.9	1256.5	1253.2	1255.5
12.5°	1262.0	1260.2	1258.5	1256.8	1255.1	1252.5	1249.2	1245.9	1242.6	1239.3	1240.8
15°	1237.0	1235.3	1233.6	1232.0	1230.3	1227.7	1224.1	1220.4	1216.8	1213.2	1214.4
17.5°	1205.0	1203.3	1201.7	1200.0	1198.3	1195.6	1192.0	1188.3	1184.6	1181.0	1182.3
20°	1182.0	1180.3	1178.7	1177.0	1175.3	1172.6	1168.7	1164.8	1160.9	1157.0	1157.8
22.5°	1159.0	1156.7	1154.4	1152.0	1149.7	1146.7	1143.0	1139.4	1135.7	1132.0	1132.2
25°	1119.6	1117.3	1115.1	1112.9	1110.7	1107.2	1102.4	1097.7	1093.0	1088.3	1088.8
27.5°	1074.6	1072.5	1070.6	1068.5	1066.6	1063.7	1060.0	1056.2	1052.6	1048.8	1048.0
30°	1044.6	1042.4	1040.1	1037.9	1035.7	1032.5	1028.3	1024.2	1020.0	1015.8	1015.0
32.5°	1012.6	1010.8	1009.0	1007.2	1005.4	1002.4	998.0	993.6	989.2	984.8	983.3
35°	965.8	963.0	960.3	957.5	954.7	951.1	946.6	942.2	937.8	933.4	931.7
37.5°	913.1	910.7	908.2	905.8	903.4	899.9	895.4	891.0	886.6	882.2	880.0
40°	877.1	874.9	872.7	870.5	868.2	865.0	860.5	856.1	851.6	847.2	844.7
42.5°	842.1	839.9	837.7	835.5	833.2	829.9	825.5	821.0	816.6	812.1	809.4
45°	785.9	784.0	782.0	780.1	778.1	775.1	770.9	766.8	762.6	758.4	755.4
47.5°	729.9	728.1	726.3	724.5	722.6	719.5	715.2	710.9	706.5	702.2	699.0
50°	691.0	689.6	688.2	686.8	685.4	682.7	678.9	675.0	671.1	667.2	663.3
52.5°	653.0	651.2	649.3	647.5	645.6	642.9	639.2	635.5	631.9	628.3	625.0
55°	594.8	593.0	591.4	589.8	588.1	585.5	582.3	578.9	575.6	572.3	568.9
57.5°	536.3	534.9	533.6	532.3	530.9	528.5	524.8	521.1	517.5	513.8	510.5
60°	497.3	496.2	495.0	494.0	492.8	490.3	486.5	482.6	478.7	474.8	471.7
62.5°	459.3	457.5	455.8	454.0	452.2	449.8	446.8	443.8	440.8	437.8	435.0
65°	401.0	399.4	397.8	396.1	394.4	392.2	389.4	386.6	383.8	381.1	378.6
67.5°	341.9	340.6	339.2	337.9	336.6	334.6	332.1	329.6	327.1	324.7	322.7
70°	304.8	303.8	302.6	301.6	300.4	298.6	296.1	293.6	291.1	288.6	286.7
72.5°	266.8	265.8	264.6	263.6	262.4	261.1	259.5	257.9	256.2	254.6	252.7
75°	209.9	209.4	208.8	208.2	207.7	206.7	205.3	203.9	202.5	201.1	199.5
77.5°	158.9	158.0	157.0	156.1	155.2	154.4	153.8	153.3	152.7	152.2	151.3
80°	125.0	124.7	124.4	124.1	123.8	123.4	122.9	122.3	121.7	121.2	120.3
82.5°	92.9	92.9	92.9	92.8	92.7	92.5	92.2	91.9	91.6	91.2	90.2
85°	51.2	51.0	50.7	50.4	50.1	49.8	49.6	49.2	49.0	48.8	47.9
87.5°	18.2	18.2	18.2	18.2	18.2	18.3	18.7	19.1	19.4	19.8	19.0
90°	0.8	3.0	5.2	7.4	9.6	12.7	16.8	20.8	24.9	28.9	28.5
92.5°	14.7	16.3	17.9	19.6	21.2	22.4	23.4	24.4	25.3	26.3	26.3
95°	43.0	44.8	46.6	48.4	50.3	51.4	51.8	52.1	52.5	52.8	52.8
97.5°	78.4	80.1	81.7	83.3	84.9	86.1	86.7	87.5	88.1	88.9	88.9
100°	104.8	106.3	107.8	109.3	110.7	111.8	112.3	112.8	113.4	114.0	114.0
102.5°	132.6	133.8	134.9	136.2	137.3	138.3	138.9	139.7	140.3	141.0	141.2
105°	177.6	178.1	178.6	179.2	179.8	180.2	180.6	180.9	181.3	181.6	182.1
107.5°	222.8	223.6	224.4	225.2	226.0	226.4	226.4	226.4	226.4	226.4	226.6
110°	251.8	253.0	254.0	255.2	256.2	256.8	256.8	256.8	256.8	256.8	256.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	283.6	284.7	285.8	286.9	288.0	288.5	288.3	288.1	288.0	287.9	287.4
115°	330.3	331.4	332.5	333.6	334.7	335.1	334.7	334.4	333.9	333.6	333.5
117.5°	376.9	378.4	379.8	381.3	382.8	382.9	382.0	380.9	379.9	378.9	378.5
120°	408.0	409.4	410.9	412.4	413.8	413.8	412.4	410.9	409.4	408.0	408.0
122.5°	436.3	438.1	439.9	441.6	443.4	443.8	442.7	441.7	440.7	439.6	439.2
125°	480.6	482.2	483.9	485.6	487.2	487.8	487.2	486.7	486.1	485.6	485.0
127.5°	523.7	525.8	527.9	530.0	532.1	532.8	532.1	531.5	530.8	530.2	529.5
130°	550.8	553.2	555.5	558.0	560.4	561.3	561.0	560.6	560.3	559.9	559.5
132.5°	581.1	583.1	585.1	587.0	589.0	590.0	590.0	590.1	590.2	590.3	589.5
135°	621.8	623.9	625.8	627.9	629.9	631.0	631.4	631.8	632.2	632.5	632.3
137.5°	664.6	666.3	667.9	669.5	671.2	672.3	672.7	673.2	673.7	674.2	674.0
140°	690.3	692.0	693.7	695.3	696.9	698.2	699.2	700.1	701.0	701.9	701.9
142.5°	716.8	718.4	720.1	721.7	723.4	724.6	725.1	725.8	726.4	727.0	727.2
145°	754.7	756.0	757.3	758.6	759.9	761.1	762.2	763.3	764.4	765.5	765.6
147.5°	788.6	790.2	791.7	793.2	794.8	795.9	796.6	797.4	798.1	798.8	799.2
150°	811.7	812.9	813.9	815.1	816.1	817.1	817.8	818.6	819.3	820.0	820.5
152.5°	832.3	833.3	834.5	835.5	836.7	837.6	838.5	839.4	840.2	841.1	841.8
155°	862.9	863.5	864.1	864.6	865.1	865.7	866.3	866.8	867.3	867.9	868.8
157.5°	889.2	889.6	889.9	890.3	890.6	891.0	891.4	891.7	892.0	892.3	893.6
160°	905.1	905.4	905.8	906.1	906.5	906.8	907.0	907.2	907.3	907.5	908.7
162.5°	919.6	919.7	919.7	919.8	919.9	920.0	920.2	920.4	920.6	920.7	922.0
165°	938.9	938.7	938.6	938.3	938.2	938.1	938.1	938.1	938.1	938.1	939.4
167.5°	955.1	954.6	954.0	953.4	952.9	952.6	952.6	952.5	952.5	952.4	953.7
170°	963.7	963.1	962.6	962.1	961.5	961.2	960.9	960.7	960.6	960.4	961.6
172.5°	969.6	969.1	968.5	968.0	967.4	967.0	966.9	966.7	966.5	966.3	967.6
175°	976.9	976.3	975.8	975.3	974.7	974.2	973.9	973.5	973.1	972.7	974.0
177.5°	979.9	979.4	979.0	978.5	978.1	977.7	977.5	977.1	976.9	976.6	977.5
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4	1299.4
2.5°	1293.9	1296.1	1298.4	1299.3	1298.8	1298.4	1297.9	1297.5
5°	1285.2	1287.4	1289.6	1290.5	1289.9	1289.3	1288.7	1288.2
7.5°	1270.6	1272.8	1275.1	1275.9	1275.3	1274.7	1274.1	1273.5
10°	1257.7	1259.9	1262.1	1262.8	1262.0	1261.1	1260.3	1259.5
12.5°	1242.4	1243.9	1245.5	1245.9	1245.3	1244.7	1244.1	1243.5
15°	1215.4	1216.6	1217.6	1217.6	1216.2	1214.8	1213.4	1212.0
17.5°	1183.6	1184.9	1186.1	1186.1	1184.7	1183.4	1182.1	1180.7
20°	1158.7	1159.5	1160.3	1160.2	1159.1	1158.0	1156.9	1155.8
22.5°	1132.4	1132.5	1132.7	1132.5	1131.8	1131.1	1130.4	1129.8
25°	1089.4	1090.0	1090.5	1090.5	1090.0	1089.4	1088.8	1088.3
27.5°	1047.2	1046.3	1045.5	1044.4	1043.1	1041.7	1040.4	1039.1
30°	1014.2	1013.3	1012.5	1011.5	1010.4	1009.3	1008.2	1007.1
32.5°	981.9	980.3	978.8	977.5	976.4	975.3	974.2	973.1
35°	930.0	928.4	926.7	925.2	923.8	922.4	921.0	919.6
37.5°	878.0	876.0	873.9	872.2	870.9	869.5	868.2	866.9
40°	842.1	839.7	837.1	835.4	834.2	833.2	832.0	830.9
42.5°	806.7	804.0	801.3	799.2	797.6	796.1	794.5	792.9
45°	752.4	749.3	746.2	744.1	743.0	741.9	740.8	739.7
47.5°	695.8	692.5	689.3	686.9	685.3	683.7	682.1	680.4
50°	659.4	655.6	651.7	649.1	647.7	646.3	644.9	643.5
52.5°	621.8	618.6	615.4	612.9	611.0	609.2	607.3	605.5
55°	565.6	562.2	559.0	556.6	555.2	553.8	552.4	551.0
57.5°	507.2	503.9	500.7	498.5	497.5	496.4	495.4	494.3
60°	468.7	465.6	462.6	460.6	459.8	459.0	458.1	457.3
62.5°	432.2	429.3	426.5	424.5	423.5	422.4	421.3	420.3
65°	376.1	373.6	371.1	369.2	367.8	366.4	365.0	363.6
67.5°	320.7	318.8	316.8	315.3	314.2	313.1	312.0	310.9
70°	284.7	282.8	280.9	279.3	278.2	277.1	276.0	274.9
72.5°	250.8	248.8	246.9	245.5	244.6	243.7	242.8	241.9
75°	197.9	196.2	194.5	194.0	194.5	195.0	195.6	196.2
77.5°	150.5	149.7	148.9	148.1	147.2	146.5	145.7	145.0
80°	119.5	118.7	117.9	117.2	116.6	116.1	115.5	115.0
82.5°	89.1	88.1	87.0	86.4	86.3	86.2	86.1	85.9
85°	47.0	46.2	45.4	44.8	44.6	44.3	44.0	43.7
87.5°	18.3	17.5	16.8	16.4	16.1	16.0	15.8	15.6
90°	28.1	27.8	27.4	27.3	27.6	27.7	27.9	28.0
92.5°	26.4	26.5	26.6	26.6	26.7	26.7	26.7	26.7
95°	52.8	52.8	52.8	52.7	52.3	51.9	51.5	51.2
97.5°	88.9	88.9	88.9	88.9	88.8	88.8	88.7	88.7
100°	114.0	114.0	114.0	113.9	113.7	113.5	113.3	113.2
102.5°	141.4	141.5	141.6	141.6	141.5	141.2	141.0	140.9
105°	182.4	182.8	183.1	183.4	183.4	183.4	183.4	183.4
107.5°	226.7	226.9	227.0	226.7	225.8	224.9	224.1	223.3
110°	256.8	256.8	256.8	256.6	256.0	255.4	254.9	254.4



TEST NUMBER: P331602-930

CATALOG NUMBER: S122DIW-S1005D970U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	287.0	286.6	286.1	285.7	285.3	284.9	284.5	284.1
115°	333.2	333.0	332.9	332.5	332.0	331.4	330.8	330.3
117.5°	378.0	377.6	377.1	376.6	376.1	375.5	375.0	374.4
120°	408.0	408.0	408.0	407.6	407.1	406.6	406.0	405.4
122.5°	438.8	438.3	437.9	437.5	437.1	436.7	436.3	435.9
125°	484.5	483.9	483.4	483.0	482.8	482.7	482.4	482.2
127.5°	528.8	528.2	527.5	526.8	526.3	525.7	525.1	524.6
130°	559.1	558.8	558.4	557.8	557.1	556.4	555.6	554.9
132.5°	588.6	587.8	587.0	586.4	585.8	585.1	584.6	584.0
135°	632.2	632.0	631.8	631.4	630.9	630.3	629.8	629.2
137.5°	673.8	673.8	673.6	673.1	672.4	671.6	670.9	670.2
140°	701.9	701.9	701.9	701.6	700.8	700.1	699.4	698.6
142.5°	727.3	727.5	727.6	727.3	726.6	725.9	725.1	724.4
145°	765.9	766.1	766.2	766.0	765.2	764.5	763.8	763.0
147.5°	799.6	800.1	800.5	800.3	799.6	798.9	798.3	797.5
150°	821.1	821.7	822.2	822.2	821.7	821.1	820.5	820.0
152.5°	842.5	843.3	843.9	843.9	843.3	842.5	841.8	841.1
155°	869.8	870.7	871.6	871.7	871.2	870.7	870.1	869.5
157.5°	894.9	896.1	897.3	897.5	896.7	895.8	894.9	894.0
160°	909.7	910.9	911.9	912.2	911.4	910.7	910.0	909.2
162.5°	923.2	924.5	925.8	925.9	925.0	924.1	923.2	922.4
165°	940.7	941.9	943.2	943.4	942.5	941.6	940.7	939.7
167.5°	955.0	956.3	957.6	957.7	956.8	955.9	954.9	954.0
170°	963.0	964.3	965.6	965.6	964.5	963.4	962.3	961.2
172.5°	968.9	970.2	971.4	971.6	970.5	969.4	968.2	967.2
175°	975.3	976.6	977.9	978.0	976.9	975.8	974.7	973.6
177.5°	978.4	979.2	980.1	980.1	979.2	978.4	977.5	976.6
180°	978.5	978.5	978.5	978.5	978.5	978.5	978.5	978.5

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