

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: P332218-930

Luminaire Tested: **S123DIW-S1165D755U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332218-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S1165D755U930-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6418.3 lumens  
Efficiency: N/A  
Efficacy: 107.3 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

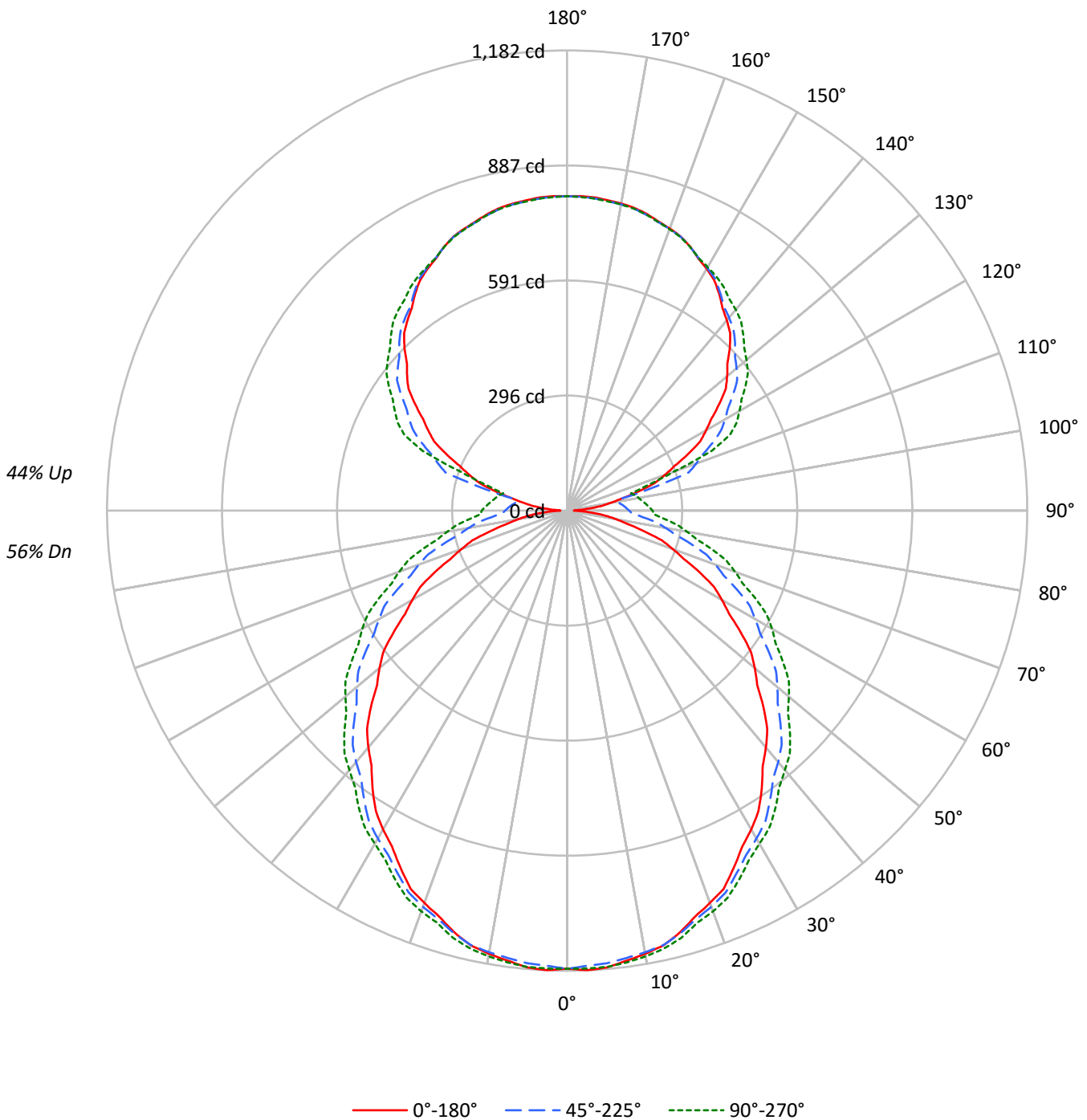
Input Watts (W): 59.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0													
RCR																																					
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56																			
1	98	93	89	85	91	87	83	79	74	72	69	63	61	59	53	51	50	45																			
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	43	41	37																			
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31																			
4	74	62	54	47	68	58	51	45	50	44	40	43	38	34	36	32	30	26																			
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	28	26	22																			
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	19																			
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17																			
8	53	41	33	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15																			
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14																			
10	46	34	26	22	43	32	25	20	28	22	18	24	20	16	21	17	14	12																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12664	12664	12664
5°	12703	12344	12352
10°	12589	12060	12000
15°	12427	11738	11616
20°	12195	11369	11194
25°	11908	10944	10750
30°	11616	10563	10299
35°	11287	10159	9939
40°	10973	9792	9555
45°	10626	9438	9247
50°	10281	9090	8908
55°	9903	8734	8603
60°	9533	8371	8291
65°	9155	7984	7918
70°	8585	7551	7537
75°	7860	7053	7148
80°	7035	6564	6706
85°	6264	6229	6450



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.5	1.7
10°-20°	317.9	5.0
20°-30°	475.5	7.4
30°-40°	567.9	8.8
40°-50°	594.1	9.3
50°-60°	557.5	8.7
60°-70°	465.7	7.3
70°-80°	333.2	5.2
80°-90°	201.0	3.1
90°-100°	154.0	2.4
100°-110°	231.5	3.6
110°-120°	397.3	6.2
120°-130°	462.9	7.2
130°-140°	473.0	7.4
140°-150°	431.0	6.7
150°-160°	345.0	5.4
160°-170°	222.6	3.5
170°-180°	76.7	1.2
0°-30°	905.0	14.1
0°-40°	1472.8	22.9
0°-60°	2624.5	40.9
0°-90°	3624.3	56.5
90°-120°	782.8	12.2
90°-150°	2149.7	33.5
90°-180°	2794.0	43.5
0°-180°	6418.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1178	1175	1168	1177	1176	112
15°	1121	1125	1124	1136	1136	316
25°	1012	1025	1029	1045	1046	466
35°	872	892	909	927	933	545
45°	713	743	775	799	810	549
55°	543	586	632	665	677	486
65°	376	426	482	519	533	371
75°	204	264	328	369	386	218
85°	63	127	195	237	251	66
90°	17	86	159	203	219	13
95°	51	79	145	188	202	56
105°	189	224	228	162	170	200
115°	342	363	412	448	462	338
125°	477	483	521	548	559	426
135°	591	594	610	634	639	455
145°	680	683	684	696	701	425
155°	748	747	748	750	747	345
165°	789	787	786	791	787	223
175°	808	805	805	809	804	77
180°	808	808	808	808	808	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1181.6	1181.0	1180.2	1179.6	1178.8	1177.6	1175.8	1173.9	1172.2	1170.4	1172.2
5°	1177.8	1177.2	1176.6	1176.1	1175.5	1174.4	1172.6	1170.9	1169.2	1167.5	1169.8
7.5°	1166.2	1166.4	1166.4	1166.6	1166.7	1166.0	1164.2	1162.6	1161.0	1159.3	1162.1
10°	1156.0	1156.6	1157.2	1157.7	1158.3	1157.8	1156.4	1155.0	1153.6	1152.1	1155.0
12.5°	1143.7	1144.4	1145.3	1146.1	1146.9	1146.8	1145.8	1144.8	1143.9	1142.9	1145.5
15°	1121.4	1122.3	1123.1	1124.0	1124.8	1125.1	1124.8	1124.5	1124.2	1124.0	1126.8
17.5°	1093.2	1094.9	1096.6	1098.3	1100.0	1100.8	1100.7	1100.6	1100.5	1100.3	1102.9
20°	1072.7	1074.4	1076.1	1077.8	1079.5	1080.7	1081.2	1081.8	1082.4	1083.0	1085.5
22.5°	1051.2	1052.9	1054.6	1056.3	1058.0	1059.2	1060.1	1060.9	1061.6	1062.4	1065.7
25°	1012.4	1015.3	1018.1	1021.0	1023.9	1025.6	1026.5	1027.4	1028.3	1029.1	1032.8
27.5°	973.5	976.7	980.0	983.3	986.4	989.0	990.8	992.6	994.5	996.3	999.5
30°	945.8	949.5	953.2	956.9	960.6	963.6	965.9	968.2	970.5	972.7	976.2
32.5°	915.0	919.2	923.3	927.5	931.6	935.2	938.2	941.2	944.1	947.1	950.7
35°	871.5	876.0	880.6	885.2	889.7	893.8	897.6	901.2	904.9	908.7	912.9
37.5°	825.3	830.5	835.6	840.7	845.9	850.7	855.2	859.8	864.4	868.9	873.8
40°	794.6	799.7	804.9	809.9	815.1	820.5	826.2	831.8	837.6	843.3	848.2
42.5°	760.8	767.0	773.3	779.5	785.8	791.9	797.9	803.7	809.7	815.6	820.9
45°	712.6	719.4	726.2	733.0	739.9	746.9	754.0	761.1	768.3	775.3	780.7
47.5°	662.0	669.8	677.5	685.3	693.1	701.0	709.1	717.3	725.5	733.6	739.6
50°	629.2	637.2	645.2	653.1	661.1	669.5	678.4	687.2	696.0	704.8	711.4
52.5°	594.4	602.8	611.2	619.7	628.1	637.2	646.9	656.6	666.4	676.1	683.0
55°	543.4	552.8	562.1	571.6	581.0	590.8	601.0	611.3	621.6	631.9	639.5
57.5°	493.7	503.4	513.2	523.0	532.9	543.4	554.6	565.8	577.0	588.2	596.0
60°	458.8	469.0	479.3	489.6	499.8	510.8	522.4	534.1	545.8	557.5	565.5
62.5°	426.0	436.5	446.9	457.5	467.9	479.3	491.7	504.0	516.4	528.8	536.7
65°	375.5	386.6	397.7	408.8	420.0	431.8	444.3	456.8	469.4	481.8	490.4
67.5°	324.2	336.1	347.8	359.6	371.4	383.7	396.4	409.2	421.9	434.7	444.0
70°	288.4	300.6	312.8	325.1	337.4	350.3	363.9	377.6	391.3	405.0	414.1
72.5°	255.5	267.8	280.1	292.3	304.5	317.7	331.8	345.9	360.1	374.2	383.6
75°	203.7	217.2	230.6	243.9	257.3	271.1	285.4	299.6	313.8	328.1	337.5
77.5°	158.7	172.2	185.6	199.2	212.6	226.6	240.9	255.3	269.6	284.0	293.9
80°	126.9	140.8	154.8	168.8	182.7	197.1	211.9	226.7	241.5	256.3	266.0
82.5°	99.2	113.4	127.6	141.8	155.9	170.6	185.6	200.6	215.6	230.6	240.4
85°	62.8	77.0	91.3	105.5	119.8	134.4	149.5	164.6	179.7	194.8	204.5
87.5°	34.2	48.7	63.1	77.5	92.0	106.6	121.6	136.4	151.3	166.2	175.9
90°	17.3	32.5	47.9	63.1	78.4	94.2	110.5	126.7	142.9	159.2	169.4
92.5°	26.8	39.0	51.2	63.4	75.7	89.6	105.2	120.7	136.4	152.0	162.2
95°	50.7	56.3	62.0	67.6	73.3	83.8	99.2	114.6	130.0	145.4	155.2
97.5°	86.1	93.7	101.3	108.8	116.4	122.1	125.8	129.5	133.2	137.0	146.5
100°	112.9	124.7	136.5	148.3	160.0	162.1	154.4	146.7	139.0	131.3	140.6
102.5°	143.6	153.7	163.8	173.9	184.1	184.2	174.4	164.5	154.7	144.8	149.5
105°	189.1	197.3	205.6	213.9	222.3	226.5	226.7	227.0	227.2	227.5	211.9
107.5°	235.7	242.7	249.7	256.7	263.7	273.9	287.4	300.9	314.5	328.0	318.3
110°	266.8	273.0	279.2	285.4	291.6	301.2	314.1	326.9	339.7	352.6	355.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	297.6	302.7	307.9	313.1	318.3	327.1	339.5	351.9	364.3	376.7	383.9
115°	341.8	346.0	350.3	354.4	358.7	366.5	378.0	389.4	400.8	412.3	420.4
117.5°	385.6	388.7	391.8	394.8	397.9	404.6	414.8	425.1	435.3	445.6	453.4
120°	411.9	414.5	417.1	419.8	422.4	428.6	438.4	448.2	458.0	467.8	475.4
122.5°	439.7	441.5	443.2	444.9	446.6	452.2	461.7	471.2	480.5	490.0	497.1
125°	476.6	477.7	478.7	479.8	480.9	485.8	494.6	503.4	512.2	521.0	527.3
127.5°	513.6	514.4	515.1	515.9	516.7	520.8	528.3	535.7	543.2	550.7	556.8
130°	536.6	537.4	538.2	538.9	539.7	543.2	549.4	555.7	561.9	568.2	574.1
132.5°	557.7	558.6	559.7	560.7	561.7	564.7	569.6	574.6	579.6	584.7	590.4
135°	591.1	591.7	592.2	592.6	593.1	595.3	598.9	602.6	606.3	609.9	615.5
137.5°	619.6	620.4	621.3	622.0	622.8	624.2	626.3	628.4	630.4	632.4	637.6
140°	637.8	638.6	639.4	640.3	641.0	642.0	643.3	644.6	645.8	647.1	651.9
142.5°	655.6	656.2	656.7	657.3	657.9	658.4	659.0	659.6	660.1	660.7	665.0
145°	680.4	681.1	681.8	682.4	683.0	683.5	683.7	684.0	684.3	684.5	687.1
147.5°	702.5	703.1	703.8	704.3	705.0	705.4	705.7	706.0	706.2	706.5	707.4
150°	717.0	717.3	717.7	718.1	718.5	718.8	719.2	719.4	719.7	719.9	720.2
152.5°	729.9	730.1	730.3	730.4	730.7	730.8	731.0	731.2	731.3	731.5	731.9
155°	748.1	747.9	747.6	747.3	747.1	747.0	747.1	747.3	747.4	747.5	748.2
157.5°	762.3	762.3	762.2	762.2	762.2	762.1	762.0	761.8	761.7	761.6	762.4
160°	770.9	770.8	770.7	770.5	770.4	770.3	770.1	770.0	769.9	769.7	770.5
162.5°	779.1	778.8	778.4	778.0	777.7	777.5	777.3	777.2	777.1	776.9	777.9
165°	789.0	788.6	788.1	787.7	787.3	787.1	786.9	786.8	786.7	786.5	787.6
167.5°	796.6	796.1	795.6	795.0	794.5	794.2	794.2	794.2	794.2	794.2	795.2
170°	801.0	800.4	799.9	799.3	798.8	798.5	798.5	798.5	798.5	798.5	799.6
172.5°	803.8	803.2	802.5	801.9	801.3	801.0	801.1	801.2	801.3	801.4	802.5
175°	807.6	806.8	806.2	805.5	804.9	804.6	804.7	804.9	805.0	805.1	806.1
177.5°	808.5	808.0	807.4	806.9	806.3	806.2	806.2	806.3	806.5	806.6	807.4
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1173.9	1175.8	1177.6	1178.4	1178.2	1177.9	1177.7	1177.5
5°	1172.1	1174.4	1176.6	1177.6	1177.4	1177.0	1176.8	1176.5
7.5°	1165.0	1167.8	1170.7	1172.0	1171.6	1171.3	1170.9	1170.6
10°	1157.8	1160.7	1163.5	1164.7	1164.1	1163.5	1162.9	1162.4
12.5°	1148.2	1150.8	1153.4	1154.4	1153.8	1153.2	1152.7	1152.1
15°	1129.6	1132.5	1135.3	1136.6	1136.4	1136.0	1135.8	1135.5
17.5°	1105.5	1108.1	1110.6	1111.7	1111.3	1110.9	1110.5	1110.1
20°	1088.0	1090.6	1093.2	1094.6	1094.9	1095.2	1095.4	1095.8
22.5°	1068.9	1072.2	1075.4	1076.9	1076.8	1076.6	1076.4	1076.3
25°	1036.5	1040.2	1043.9	1045.8	1045.8	1045.8	1045.8	1045.8
27.5°	1002.7	1005.8	1009.0	1010.7	1011.0	1011.2	1011.5	1011.7
30°	979.6	983.0	986.3	988.1	988.1	988.1	988.1	988.1
32.5°	954.4	958.1	961.6	963.8	964.5	965.2	965.9	966.5
35°	917.2	921.5	925.7	928.5	929.6	930.7	931.9	932.9
37.5°	878.6	883.5	888.3	891.1	892.1	893.0	893.9	894.8
40°	853.0	857.8	862.7	865.6	866.7	867.9	869.0	870.2
42.5°	826.2	831.5	836.8	840.2	841.8	843.4	845.0	846.6
45°	786.2	791.6	797.0	800.9	803.2	805.4	807.7	809.9
47.5°	745.8	751.9	758.0	761.9	763.6	765.4	767.2	768.9
50°	718.0	724.6	731.1	735.3	737.4	739.3	741.4	743.3
52.5°	689.7	696.5	703.3	707.9	710.4	712.8	715.3	717.7
55°	647.2	654.8	662.6	667.6	669.8	672.1	674.4	676.7
57.5°	603.7	611.5	619.2	624.4	627.1	629.8	632.5	635.1
60°	573.4	581.4	589.4	594.9	598.1	601.2	604.3	607.5
62.5°	544.7	552.7	560.7	566.1	569.0	571.9	574.9	577.7
65°	499.0	507.5	516.1	521.7	524.6	527.4	530.3	533.1
67.5°	453.4	462.8	472.1	477.9	480.4	482.7	485.1	487.5
70°	423.2	432.4	441.4	447.4	450.3	453.1	455.9	458.8
72.5°	392.9	402.3	411.6	417.7	420.5	423.4	426.2	429.1
75°	346.9	356.3	365.7	372.1	375.5	379.0	382.4	385.7
77.5°	303.8	313.7	323.7	329.9	332.6	335.2	337.8	340.4
80°	275.7	285.4	295.1	301.3	304.2	307.0	309.9	312.7
82.5°	250.1	259.8	269.4	275.7	278.5	281.4	284.2	287.1
85°	214.2	223.9	233.5	239.8	242.6	245.5	248.3	251.2
87.5°	185.7	195.5	205.3	211.7	214.6	217.4	220.4	223.2
90°	179.6	189.9	200.1	206.8	209.9	213.0	216.1	219.2
92.5°	172.6	182.9	193.2	199.7	202.5	205.3	208.1	210.8
95°	165.0	174.8	184.5	190.9	193.7	196.5	199.3	202.2
97.5°	156.0	165.6	175.2	181.5	184.4	187.4	190.4	193.4
100°	149.9	159.3	168.6	174.7	177.7	180.8	183.7	186.7
102.5°	154.3	159.0	163.7	167.6	170.7	173.8	176.9	180.0
105°	196.2	180.7	165.0	158.6	161.4	164.3	167.1	169.9
107.5°	308.6	299.0	289.3	276.8	261.5	246.2	231.0	215.6
110°	358.6	361.6	364.6	357.8	341.0	324.2	307.4	290.6





TEST NUMBER: P332218-930

CATALOG NUMBER: S123DIW-S1165D755U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	391.2	398.4	405.7	408.5	407.1	405.5	404.0	402.5
115°	428.6	436.8	445.0	450.5	453.3	456.1	458.9	461.7
117.5°	461.2	469.1	477.0	482.0	484.4	486.7	489.0	491.3
120°	483.0	490.6	498.2	503.0	505.1	507.0	509.1	511.0
122.5°	504.2	511.2	518.3	522.9	525.0	527.1	529.2	531.2
125°	533.5	539.7	545.9	550.2	552.4	554.7	557.0	559.2
127.5°	562.9	568.9	574.9	578.9	580.5	582.2	583.8	585.5
130°	580.0	586.0	591.9	595.7	597.0	598.5	600.0	601.4
132.5°	596.1	601.8	607.5	611.1	612.7	614.2	615.8	617.3
135°	621.0	626.5	632.0	635.3	636.3	637.3	638.4	639.4
137.5°	642.7	647.8	653.0	656.2	657.3	658.4	659.7	660.8
140°	656.6	661.5	666.3	669.3	670.4	671.6	672.7	673.9
142.5°	669.2	673.4	677.7	680.4	681.4	682.4	683.5	684.5
145°	689.7	692.2	694.7	696.6	697.7	698.9	700.0	701.2
147.5°	708.4	709.3	710.3	710.9	711.4	711.8	712.2	712.7
150°	720.5	720.7	721.0	721.2	721.4	721.5	721.7	721.9
152.5°	732.4	732.9	733.4	733.4	732.9	732.4	731.9	731.4
155°	748.9	749.5	750.2	750.2	749.3	748.5	747.7	746.9
157.5°	763.2	763.9	764.8	764.7	763.6	762.5	761.6	760.5
160°	771.4	772.2	772.9	772.9	771.9	771.0	770.1	769.2
162.5°	778.8	779.7	780.6	780.6	779.8	778.9	778.1	777.3
165°	788.6	789.7	790.8	790.8	789.9	789.0	788.1	787.1
167.5°	796.3	797.4	798.5	798.5	797.4	796.3	795.2	794.2
170°	800.6	801.8	802.8	802.8	801.8	800.6	799.6	798.5
172.5°	803.6	804.6	805.7	805.6	804.5	803.3	802.1	801.0
175°	807.0	808.0	808.9	808.8	807.7	806.7	805.6	804.5
177.5°	808.3	809.1	810.0	809.8	808.8	807.7	806.7	805.6
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6

(END OF REPORT)