

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: P331566-930

Luminaire Tested: **S122DIW-S865D710U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331566-930  
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-S865D710U930-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

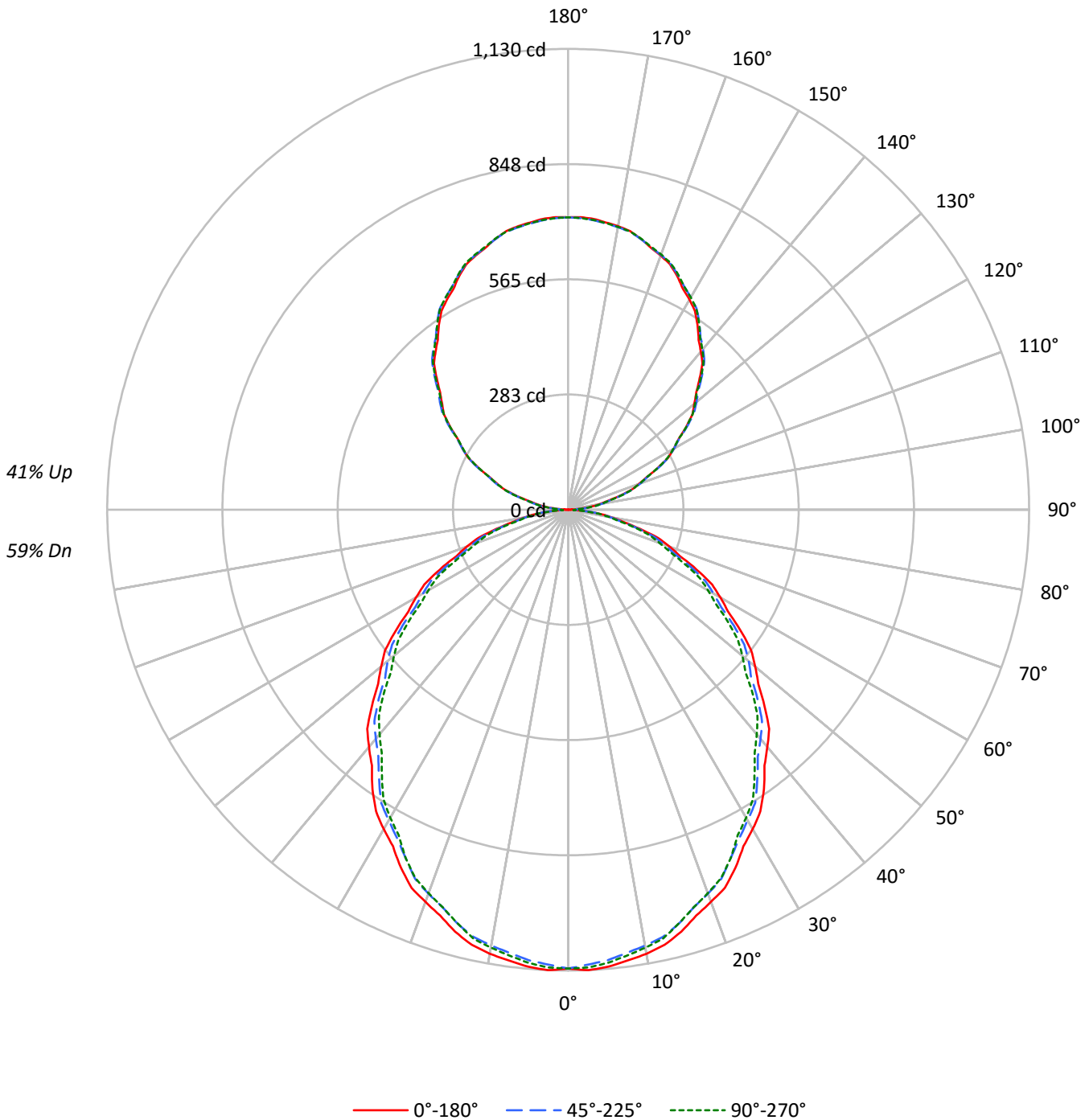
Lumens per Lamp: N/A  
Luminaire Lumens: 4870.0 lumens  
Efficiency: N/A  
Efficacy: 90.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 53.6  
Input Voltage (V): 120  
Input Current (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	102	102	102	102	88	88	88	76	76	76	64	64	64	59																			
1	100	95	91	88	93	89	86	83	77	75	73	67	65	63	57	55	54	50																			
2	91	83	77	72	84	78	72	68	68	64	60	59	55	53	50	48	46	41																			
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	44	41	39	35																			
4	76	65	57	51	70	61	54	48	53	48	43	46	42	38	40	36	34	30																			
5	70	58	50	43	65	54	47	41	48	42	37	41	37	33	36	32	29	26																			
6	64	52	44	38	60	49	41	36	43	37	33	38	33	29	32	29	26	23																			
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20																			
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	23	21	18																			
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	16																			
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15																			

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

	0°	45°	90°
0°	18166	18166	18166
5°	18235	17973	18078
10°	18126	17790	17879
15°	17904	17560	17541
20°	17584	17213	17194
25°	17268	16787	16787
30°	16861	16397	16257
35°	16484	15928	15693
40°	16008	15460	15163
45°	15536	14995	14625
50°	15028	14511	13996
55°	14494	13948	13430
60°	13905	13275	12788
65°	13268	12607	12027
70°	12463	11797	11235
75°	11335	10861	10593
80°	10060	9754	9252
85°	8225	7818	7003



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.8	2.2
10°-20°	297.7	6.1
20°-30°	437.6	9.0
30°-40°	508.3	10.4
40°-50°	507.7	10.4
50°-60°	442.8	9.1
60°-70°	327.4	6.7
70°-80°	185.4	3.8
80°-90°	52.7	1.1
90°-100°	45.4	0.9
100°-110°	141.1	2.9
110°-120°	241.2	5.0
120°-130°	317.1	6.5
130°-140°	356.0	7.3
140°-150°	349.0	7.2
150°-160°	292.8	6.0
160°-170°	194.2	4.0
170°-180°	67.9	1.4
0°-30°	841.1	17.3
0°-40°	1349.3	27.7
0°-60°	2299.8	47.2
0°-90°	2865.3	58.8
90°-120°	427.7	8.8
90°-150°	1449.8	29.8
90°-180°	2005.0	41.2
0°-180°	4870.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1125	1125	1125	1125	1125	
5°	1125	1120	1109	1117	1115	107
15°	1071	1064	1050	1054	1049	301
25°	969	960	942	944	942	446
35°	836	825	808	802	796	522
45°	680	672	657	645	640	525
55°	515	508	496	483	477	460
65°	347	341	330	320	315	343
75°	182	179	174	168	170	194
85°	44	43	42	39	38	51
90°	1	8	21	20	20	4
95°	32	37	39	39	38	36
105°	130	132	133	134	134	137
115°	242	245	244	244	242	239
125°	352	357	356	354	353	315
135°	456	462	463	463	461	352
145°	553	557	561	561	559	345
155°	632	634	636	639	637	291
165°	688	687	687	691	688	194
175°	716	714	713	716	713	68
180°	717	717	717	717	717	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1
2.5°	1130.3	1129.4	1128.4	1127.5	1126.5	1124.9	1122.8	1120.7	1118.6	1116.5	1118.4
5°	1125.1	1124.1	1123.2	1122.3	1121.3	1119.5	1116.9	1114.2	1111.6	1108.9	1110.8
7.5°	1115.2	1113.7	1112.2	1110.7	1109.2	1107.1	1104.4	1101.7	1099.0	1096.3	1098.3
10°	1105.6	1104.0	1102.3	1100.6	1098.9	1096.7	1093.7	1090.9	1088.0	1085.1	1087.0
12.5°	1092.7	1091.2	1089.7	1088.2	1086.7	1084.5	1081.7	1078.7	1075.9	1073.0	1074.3
15°	1071.1	1069.6	1068.1	1066.7	1065.3	1063.0	1059.9	1056.7	1053.6	1050.5	1051.4
17.5°	1043.3	1041.9	1040.5	1039.0	1037.5	1035.3	1032.1	1028.9	1025.7	1022.5	1023.7
20°	1023.4	1022.0	1020.6	1019.1	1017.7	1015.3	1011.9	1008.5	1005.2	1001.8	1002.5
22.5°	1003.6	1001.5	999.5	997.4	995.5	992.9	989.7	986.5	983.3	980.2	980.3
25°	969.3	967.4	965.5	963.6	961.6	958.6	954.6	950.5	946.4	942.3	942.8
27.5°	930.4	928.7	926.9	925.2	923.5	921.0	917.8	914.5	911.3	908.1	907.4
30°	904.4	902.5	900.6	898.7	896.7	894.0	890.4	886.8	883.1	879.5	878.8
32.5°	876.8	875.2	873.7	872.1	870.6	867.9	864.1	860.3	856.6	852.7	851.4
35°	836.3	833.9	831.4	829.1	826.6	823.5	819.7	815.9	812.0	808.1	806.7
37.5°	790.6	788.5	786.4	784.2	782.2	779.2	775.3	771.5	767.6	763.8	762.0
40°	759.5	757.6	755.6	753.7	751.8	748.9	745.0	741.2	737.4	733.5	731.3
42.5°	729.2	727.2	725.3	723.4	721.5	718.6	714.8	710.9	707.0	703.2	700.8
45°	680.4	678.8	677.1	675.5	673.8	671.1	667.5	663.9	660.3	656.7	654.0
47.5°	632.0	630.5	628.8	627.3	625.7	623.0	619.2	615.5	611.7	608.0	605.2
50°	598.3	597.0	595.9	594.7	593.5	591.2	587.8	584.4	581.1	577.7	574.4
52.5°	565.4	563.8	562.2	560.6	559.1	556.7	553.5	550.3	547.1	544.0	541.2
55°	514.9	513.6	512.1	510.6	509.2	507.0	504.2	501.2	498.4	495.5	492.6
57.5°	464.3	463.2	462.0	460.9	459.7	457.5	454.4	451.2	448.0	444.8	442.1
60°	430.6	429.6	428.7	427.7	426.7	424.6	421.2	417.8	414.5	411.1	408.5
62.5°	397.7	396.2	394.6	393.1	391.5	389.5	386.9	384.3	381.6	379.1	376.7
65°	347.3	345.8	344.4	342.9	341.5	339.6	337.2	334.8	332.4	330.0	327.8
67.5°	296.0	294.8	293.7	292.5	291.4	289.8	287.6	285.4	283.2	281.0	279.4
70°	264.0	263.0	262.0	261.1	260.2	258.5	256.4	254.2	252.1	249.9	248.3
72.5°	231.1	230.2	229.2	228.2	227.2	226.1	224.7	223.3	221.8	220.5	218.8
75°	181.7	181.2	180.8	180.3	179.9	179.0	177.8	176.6	175.4	174.1	172.8
77.5°	137.6	136.8	136.0	135.2	134.4	133.7	133.2	132.7	132.2	131.8	131.0
80°	108.2	107.9	107.7	107.5	107.2	106.9	106.4	105.9	105.4	104.9	104.2
82.5°	80.5	80.5	80.4	80.3	80.3	80.1	79.8	79.6	79.2	79.0	78.0
85°	44.4	44.1	43.9	43.6	43.4	43.1	42.9	42.6	42.4	42.2	41.5
87.5°	15.7	15.7	15.6	15.5	15.5	15.5	15.7	15.9	16.1	16.4	15.7
90°	0.6	2.2	3.8	5.5	7.1	9.4	12.3	15.2	18.2	21.2	20.9
92.5°	10.8	12.0	13.1	14.3	15.5	16.5	17.1	17.9	18.5	19.2	19.3
95°	31.5	32.8	34.2	35.5	36.9	37.7	37.9	38.2	38.5	38.7	38.7
97.5°	57.5	58.6	59.8	61.0	62.2	63.0	63.6	64.1	64.6	65.1	65.1
100°	76.8	77.9	79.0	80.1	81.1	81.9	82.3	82.7	83.1	83.5	83.5
102.5°	97.2	98.0	98.9	99.7	100.6	101.3	101.8	102.3	102.8	103.3	103.5
105°	130.0	130.4	130.9	131.3	131.7	132.0	132.3	132.6	132.8	133.1	133.4
107.5°	163.2	163.8	164.4	165.0	165.6	165.9	165.9	165.9	165.9	165.9	166.0
110°	184.5	185.3	186.1	186.9	187.8	188.2	188.2	188.2	188.2	188.2	188.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	207.7	208.6	209.4	210.2	211.0	211.3	211.2	211.1	211.0	210.9	210.6
115°	242.0	242.8	243.6	244.4	245.2	245.5	245.2	244.9	244.7	244.4	244.3
117.5°	276.1	277.2	278.3	279.3	280.4	280.5	279.8	279.1	278.3	277.6	277.3
120°	298.9	299.9	301.0	302.1	303.1	303.1	302.1	301.0	299.9	298.9	298.9
122.5°	319.7	321.0	322.3	323.5	324.8	325.1	324.3	323.6	322.9	322.1	321.8
125°	352.1	353.4	354.5	355.7	356.9	357.3	356.9	356.5	356.1	355.7	355.3
127.5°	383.7	385.2	386.8	388.2	389.8	390.4	389.9	389.4	388.9	388.4	387.9
130°	403.5	405.3	407.0	408.8	410.5	411.2	411.0	410.7	410.4	410.2	409.9
132.5°	425.8	427.2	428.7	430.1	431.5	432.3	432.3	432.4	432.4	432.4	431.9
135°	455.6	457.1	458.5	460.0	461.5	462.4	462.6	462.9	463.2	463.4	463.3
137.5°	486.9	488.1	489.3	490.6	491.7	492.5	492.8	493.3	493.6	493.9	493.8
140°	505.8	507.0	508.2	509.4	510.6	511.5	512.3	512.9	513.6	514.2	514.2
142.5°	525.1	526.4	527.6	528.8	529.9	530.8	531.2	531.7	532.1	532.6	532.7
145°	552.9	553.9	554.8	555.8	556.8	557.6	558.4	559.2	560.0	560.8	560.9
147.5°	577.8	578.9	580.0	581.1	582.3	583.1	583.7	584.2	584.7	585.3	585.5
150°	594.7	595.5	596.3	597.1	597.9	598.6	599.2	599.7	600.2	600.8	601.2
152.5°	609.7	610.5	611.3	612.1	612.9	613.7	614.3	615.0	615.6	616.3	616.8
155°	632.2	632.6	633.0	633.4	633.8	634.2	634.6	635.0	635.4	635.9	636.5
157.5°	651.4	651.8	652.0	652.2	652.6	652.8	653.1	653.3	653.5	653.8	654.7
160°	663.1	663.3	663.6	663.9	664.1	664.4	664.5	664.6	664.7	664.9	665.7
162.5°	673.7	673.8	673.8	673.8	673.9	674.0	674.2	674.3	674.4	674.6	675.5
165°	687.9	687.7	687.6	687.5	687.4	687.3	687.3	687.3	687.3	687.3	688.2
167.5°	699.8	699.4	699.0	698.5	698.1	697.9	697.9	697.8	697.8	697.8	698.7
170°	706.0	705.6	705.2	704.8	704.4	704.2	704.0	703.8	703.8	703.6	704.6
172.5°	710.4	710.0	709.6	709.1	708.7	708.5	708.3	708.3	708.1	707.9	708.9
175°	715.7	715.3	714.9	714.5	714.1	713.8	713.5	713.2	713.0	712.7	713.6
177.5°	717.9	717.5	717.2	716.9	716.6	716.3	716.1	715.9	715.7	715.4	716.1
180°	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1
2.5°	1120.3	1122.3	1124.1	1124.9	1124.5	1124.1	1123.8	1123.4
5°	1112.7	1114.7	1116.6	1117.3	1116.9	1116.4	1115.9	1115.4
7.5°	1100.2	1102.1	1104.1	1104.7	1104.2	1103.7	1103.2	1102.6
10°	1088.9	1090.9	1092.8	1093.4	1092.7	1091.9	1091.2	1090.5
12.5°	1075.7	1077.0	1078.4	1078.8	1078.2	1077.7	1077.2	1076.7
15°	1052.4	1053.4	1054.3	1054.2	1053.0	1051.8	1050.6	1049.4
17.5°	1024.7	1025.9	1027.0	1027.0	1025.8	1024.7	1023.5	1022.4
20°	1003.2	1004.0	1004.7	1004.5	1003.6	1002.7	1001.7	1000.7
22.5°	980.5	980.6	980.7	980.6	979.9	979.3	978.8	978.2
25°	943.3	943.7	944.2	944.2	943.7	943.3	942.8	942.3
27.5°	906.7	906.0	905.2	904.3	903.1	902.0	900.8	899.7
30°	878.1	877.4	876.7	875.8	874.9	873.9	872.9	872.0
32.5°	850.1	848.8	847.5	846.4	845.5	844.5	843.5	842.5
35°	805.3	803.8	802.4	801.0	799.9	798.7	797.4	796.2
37.5°	760.3	758.5	756.7	755.2	754.1	752.9	751.8	750.6
40°	729.2	727.0	724.9	723.3	722.4	721.4	720.4	719.4
42.5°	698.5	696.1	693.8	691.9	690.6	689.3	687.9	686.6
45°	651.4	648.7	646.1	644.3	643.4	642.4	641.4	640.5
47.5°	602.4	599.7	596.9	594.8	593.4	592.0	590.6	589.2
50°	571.0	567.6	564.3	562.0	560.8	559.5	558.4	557.2
52.5°	538.3	535.6	532.8	530.6	529.0	527.4	525.9	524.2
55°	489.8	486.8	484.0	481.9	480.7	479.5	478.3	477.1
57.5°	439.2	436.3	433.5	431.6	430.7	429.8	428.9	428.0
60°	405.9	403.2	400.6	398.8	398.1	397.4	396.6	396.0
62.5°	374.1	371.7	369.2	367.6	366.6	365.7	364.8	363.9
65°	325.6	323.5	321.3	319.6	318.5	317.2	316.0	314.8
67.5°	277.7	276.0	274.3	273.0	272.1	271.1	270.1	269.1
70°	246.5	244.8	243.2	241.8	240.9	239.9	239.0	238.0
72.5°	217.1	215.4	213.8	212.5	211.7	211.0	210.2	209.5
75°	171.3	169.8	168.4	168.0	168.4	168.9	169.3	169.8
77.5°	130.4	129.6	128.9	128.2	127.5	126.9	126.2	125.5
80°	103.5	102.8	102.1	101.4	100.9	100.5	100.0	99.5
82.5°	77.1	76.2	75.3	74.8	74.7	74.6	74.5	74.4
85°	40.8	40.0	39.3	38.8	38.6	38.3	38.1	37.8
87.5°	15.1	14.4	13.9	13.5	13.3	13.1	13.0	12.8
90°	20.6	20.4	20.1	20.1	20.1	20.3	20.5	20.5
92.5°	19.3	19.4	19.5	19.5	19.5	19.6	19.6	19.6
95°	38.7	38.7	38.7	38.6	38.3	38.1	37.7	37.5
97.5°	65.1	65.1	65.1	65.1	65.1	65.1	65.0	65.0
100°	83.5	83.5	83.5	83.4	83.3	83.2	83.0	82.9
102.5°	103.5	103.6	103.8	103.8	103.6	103.5	103.4	103.2
105°	133.6	133.9	134.2	134.3	134.3	134.3	134.3	134.3
107.5°	166.1	166.2	166.3	166.1	165.4	164.9	164.2	163.6
110°	188.2	188.2	188.2	187.9	187.5	187.1	186.7	186.4





TEST NUMBER: P331566-930

CATALOG NUMBER: S122DIW-S865D710U930-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	210.3	209.9	209.6	209.3	209.0	208.7	208.4	208.1
115°	244.2	244.0	243.9	243.6	243.2	242.8	242.4	242.0
117.5°	277.0	276.6	276.3	275.9	275.5	275.1	274.7	274.3
120°	298.9	298.9	298.9	298.6	298.2	297.8	297.4	297.0
122.5°	321.5	321.1	320.8	320.5	320.2	319.9	319.6	319.4
125°	354.9	354.5	354.1	353.8	353.8	353.6	353.4	353.4
127.5°	387.4	386.9	386.5	386.0	385.6	385.1	384.7	384.3
130°	409.7	409.4	409.1	408.7	408.1	407.6	407.1	406.6
132.5°	431.3	430.6	430.1	429.6	429.2	428.7	428.3	427.9
135°	463.2	463.0	462.9	462.6	462.2	461.8	461.4	461.0
137.5°	493.7	493.6	493.5	493.2	492.6	492.1	491.5	491.0
140°	514.2	514.2	514.2	514.0	513.5	512.9	512.3	511.8
142.5°	532.9	533.0	533.0	532.9	532.3	531.7	531.2	530.7
145°	561.1	561.3	561.3	561.2	560.6	560.1	559.5	559.1
147.5°	585.9	586.1	586.4	586.4	585.9	585.3	584.8	584.3
150°	601.5	601.9	602.3	602.3	601.9	601.5	601.2	600.8
152.5°	617.3	617.8	618.3	618.3	617.8	617.3	616.8	616.3
155°	637.2	637.9	638.5	638.7	638.3	637.9	637.5	637.1
157.5°	655.6	656.5	657.4	657.5	656.9	656.2	655.6	654.9
160°	666.5	667.3	668.1	668.2	667.7	667.2	666.7	666.1
162.5°	676.4	677.4	678.2	678.3	677.7	677.1	676.5	675.8
165°	689.2	690.1	691.0	691.2	690.5	689.8	689.2	688.5
167.5°	699.7	700.6	701.6	701.6	701.0	700.3	699.6	698.9
170°	705.5	706.5	707.4	707.4	706.6	705.8	705.0	704.2
172.5°	709.9	710.8	711.8	711.8	711.0	710.2	709.4	708.6
175°	714.5	715.5	716.5	716.5	715.7	714.9	714.1	713.3
177.5°	716.7	717.4	718.0	718.0	717.4	716.7	716.1	715.4
180°	716.9	716.9	716.9	716.9	716.9	716.9	716.9	716.9

(END OF REPORT)