

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: P331569-940

Luminaire Tested: **S122DIW-S865D970U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331569-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D970U940-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6568.5 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

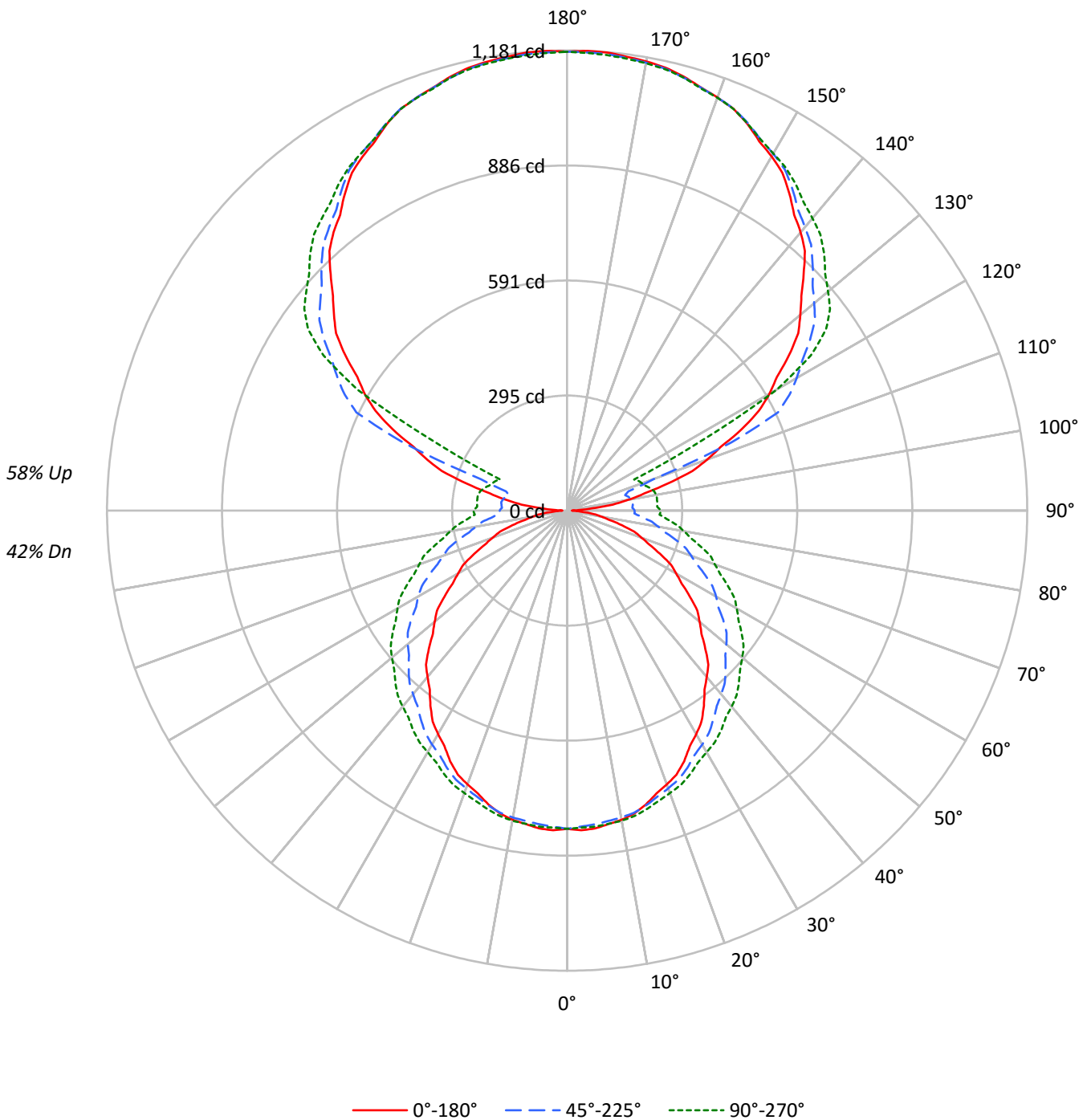
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	95	90	86	82	86	82	78	75	67	65	62	54	52	50	41	40	39	33
2	86	78	71	66	78	71	65	60	58	54	50	46	43	41	36	33	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	31	29	26	22
4	71	60	52	45	64	55	47	42	45	40	35	36	32	29	28	25	22	18
5	65	53	45	38	59	49	41	36	40	34	30	32	28	25	25	22	19	16
6	60	47	39	33	54	43	36	31	36	30	26	29	25	21	22	19	17	14
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	25	46	35	28	24	29	24	20	24	20	17	19	15	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	1.2
10°-20°	221.8	3.4
20°-30°	336.2	5.1
30°-40°	409.5	6.2
40°-50°	440.5	6.7
50°-60°	427.8	6.5
60°-70°	373.5	5.7
70°-80°	287.6	4.4
80°-90°	195.9	3.0
90°-100°	172.2	2.6
100°-110°	241.1	3.7
110°-120°	449.2	6.8
120°-130°	671.4	10.2
130°-140°	691.0	10.5
140°-150°	630.9	9.6
150°-160°	505.1	7.7
160°-170°	325.5	5.0
170°-180°	112.0	1.7
0°-30°	635.4	9.7
0°-40°	1044.8	15.9
0°-60°	1913.1	29.1
0°-90°	2770.1	42.2
90°-120°	862.5	13.1
90°-150°	2855.7	43.5
90°-180°	3798.0	57.8
0°-180°	6568.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	13	91	173	223	241	11
95°	65	95	169	216	232	75
105°	265	312	154	203	221	284
115°	495	525	597	255	189	487
125°	695	709	760	797	811	620
135°	858	872	891	923	933	663
145°	994	994	1008	1020	1023	622
155°	1095	1088	1097	1102	1096	504
165°	1154	1149	1151	1156	1151	326
175°	1180	1175	1176	1181	1173	112
180°	1178	1178	1178	1178	1178	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.4	39.4	55.6	71.6	87.7	104.3	121.5	138.6	155.7	172.8	183.8
90°	12.7	30.1	47.3	64.6	82.0	99.9	118.2	136.5	154.9	173.3	184.7
92.5°	28.1	42.1	56.1	70.1	84.2	99.6	116.5	133.5	150.5	167.5	178.3
95°	64.8	71.0	77.0	83.2	89.3	100.9	118.0	135.1	152.2	169.3	180.2
97.5°	118.2	111.6	105.0	98.4	91.8	97.6	115.7	133.9	152.1	170.4	180.8
100°	159.1	142.9	126.7	110.5	94.3	95.1	113.1	131.0	148.9	166.9	178.2
102.5°	203.1	206.5	209.9	213.3	216.7	212.1	199.5	186.9	174.2	161.7	173.1
105°	264.9	278.2	291.6	304.9	318.2	305.8	267.8	229.8	191.7	153.7	165.1
107.5°	336.8	347.5	358.1	368.8	379.5	360.4	311.5	262.6	213.7	164.8	171.6
110°	382.2	391.5	400.6	409.9	419.1	402.9	361.0	319.1	277.3	235.5	225.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	425.8	433.7	441.7	449.6	457.5	460.9	459.7	458.3	457.1	455.8	395.2
115°	494.6	500.8	506.8	513.0	519.2	530.5	547.0	563.6	580.1	596.7	516.9
117.5°	555.0	560.5	566.0	571.5	576.9	586.8	601.0	615.2	629.4	643.5	630.2
120°	600.0	603.9	607.8	611.6	615.5	624.5	638.4	652.3	666.3	680.2	689.8
122.5°	638.2	641.6	645.0	648.4	651.8	660.3	674.0	687.5	701.2	714.7	723.3
125°	695.1	697.6	700.0	702.5	704.9	712.2	724.2	736.2	748.2	760.2	768.7
127.5°	747.8	750.2	752.7	755.1	757.6	763.6	773.0	782.5	792.0	801.5	809.9
130°	781.1	783.9	786.7	789.4	792.2	797.4	805.0	812.6	820.2	827.8	836.2
132.5°	815.2	817.5	819.8	822.2	824.5	828.8	835.2	841.5	847.8	854.2	862.0
135°	858.4	861.4	864.4	867.5	870.5	874.1	878.5	882.8	887.2	891.4	898.9
137.5°	903.2	905.3	907.3	909.4	911.4	914.0	917.1	920.2	923.3	926.4	933.1
140°	932.5	933.7	935.0	936.2	937.5	939.4	942.0	944.7	947.3	949.9	955.7
142.5°	957.0	958.1	959.2	960.3	961.4	963.2	965.7	968.2	970.7	973.2	978.1
145°	994.3	994.2	994.0	993.8	993.6	995.1	998.4	1001.6	1004.8	1008.0	1010.8
147.5°	1028.0	1027.2	1026.4	1025.7	1025.0	1026.3	1029.5	1032.6	1035.8	1039.0	1040.2
150°	1049.7	1048.4	1047.0	1045.8	1044.5	1045.3	1048.3	1051.3	1054.4	1057.4	1058.5
152.5°	1068.2	1066.7	1065.1	1063.7	1062.2	1062.9	1065.8	1068.7	1071.6	1074.4	1075.6
155°	1094.9	1093.1	1091.5	1089.8	1088.1	1088.3	1090.7	1092.9	1095.2	1097.4	1098.6
157.5°	1115.9	1114.5	1112.9	1111.5	1110.1	1110.2	1111.8	1113.4	1114.9	1116.5	1117.8
160°	1128.1	1127.0	1125.9	1124.7	1123.6	1123.6	1124.7	1125.9	1127.0	1128.1	1129.3
162.5°	1139.1	1137.9	1136.8	1135.6	1134.5	1134.4	1135.4	1136.4	1137.4	1138.4	1139.6
165°	1153.7	1152.5	1151.4	1150.3	1149.1	1148.9	1149.4	1150.0	1150.6	1151.1	1152.4
167.5°	1164.6	1163.4	1162.3	1161.2	1160.0	1159.8	1160.3	1160.8	1161.4	1161.9	1163.1
170°	1170.7	1169.6	1168.5	1167.3	1166.2	1165.8	1166.2	1166.5	1167.0	1167.3	1168.7
172.5°	1174.8	1173.7	1172.5	1171.4	1170.3	1169.9	1170.3	1170.6	1171.0	1171.4	1172.8
175°	1180.1	1178.8	1177.4	1176.2	1174.8	1174.3	1174.7	1175.1	1175.5	1175.8	1177.1
177.5°	1181.0	1179.9	1178.8	1177.8	1176.7	1176.3	1176.4	1176.5	1176.7	1176.9	1177.9
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	194.7	205.6	216.5	223.7	227.1	230.6	234.0	237.5
90°	196.2	207.6	219.1	226.6	230.2	233.6	237.2	240.8
92.5°	189.0	199.8	210.6	217.8	221.1	224.5	227.8	231.2
95°	191.2	202.2	213.0	220.0	223.0	226.0	228.9	231.8
97.5°	191.4	201.8	212.3	219.3	222.6	225.9	229.3	232.6
100°	189.4	200.6	211.9	219.1	222.4	225.7	228.9	232.2
102.5°	184.6	196.1	207.6	215.0	218.5	221.9	225.3	228.7
105°	176.3	187.6	198.9	206.3	210.0	213.7	217.3	221.0
107.5°	178.3	184.9	191.7	196.9	200.5	204.2	207.8	211.4
110°	214.5	203.9	193.4	189.9	193.6	197.2	200.9	204.6



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CATALOG NUMBER: S122DIW-S865D970U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	334.6	273.8	213.2	184.7	188.2	191.6	195.1	198.6
115°	437.1	357.4	277.6	232.4	221.6	210.9	200.1	189.4
117.5°	616.7	603.3	589.9	562.1	520.0	477.9	435.8	393.7
120°	699.5	709.1	718.7	712.2	689.6	666.8	644.2	621.5
122.5°	731.7	740.3	748.8	751.8	749.3	746.8	744.3	741.8
125°	777.0	785.5	793.9	799.6	802.5	805.5	808.4	811.4
127.5°	818.3	826.8	835.3	840.7	843.1	845.6	848.0	850.4
130°	844.6	853.0	861.4	866.6	868.4	870.4	872.3	874.2
132.5°	870.0	877.8	885.7	890.6	892.5	894.4	896.3	898.2
135°	906.3	913.7	921.1	925.7	927.5	929.2	930.9	932.6
137.5°	939.8	946.5	953.1	957.1	958.2	959.4	960.5	961.6
140°	961.7	967.6	973.5	976.8	977.4	978.0	978.7	979.3
142.5°	983.0	987.9	992.8	995.5	996.0	996.4	996.8	997.2
145°	1013.8	1016.7	1019.6	1021.3	1021.6	1022.0	1022.3	1022.7
147.5°	1041.4	1042.6	1043.7	1044.3	1044.1	1043.9	1043.8	1043.7
150°	1059.7	1060.8	1061.9	1062.0	1061.1	1060.2	1059.2	1058.3
152.5°	1076.7	1077.8	1079.0	1079.0	1077.7	1076.5	1075.2	1074.0
155°	1099.7	1100.8	1102.0	1101.8	1100.3	1098.8	1097.3	1095.7
157.5°	1119.1	1120.4	1121.7	1121.6	1120.1	1118.7	1117.1	1115.7
160°	1130.4	1131.5	1132.7	1132.6	1131.2	1129.9	1128.6	1127.3
162.5°	1140.9	1142.2	1143.5	1143.4	1141.7	1140.1	1138.4	1136.8
165°	1153.8	1155.1	1156.5	1156.5	1155.1	1153.8	1152.4	1151.1
167.5°	1164.5	1165.8	1167.2	1167.0	1165.3	1163.6	1161.9	1160.2
170°	1170.0	1171.3	1172.6	1172.4	1170.7	1169.0	1167.3	1165.6
172.5°	1174.0	1175.4	1176.7	1176.5	1174.8	1173.1	1171.4	1169.7
175°	1178.5	1179.8	1181.2	1180.9	1178.9	1177.1	1175.2	1173.3
177.5°	1179.0	1180.0	1181.1	1181.0	1179.6	1178.2	1176.9	1175.5
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5

(END OF REPORT)