

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: P331570

Luminaire Tested: **S122DIW-S865D970U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331570
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-S865D970U835-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP 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: 6853.9 lumens
Efficiency: N/A
Efficacy: 112.0 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

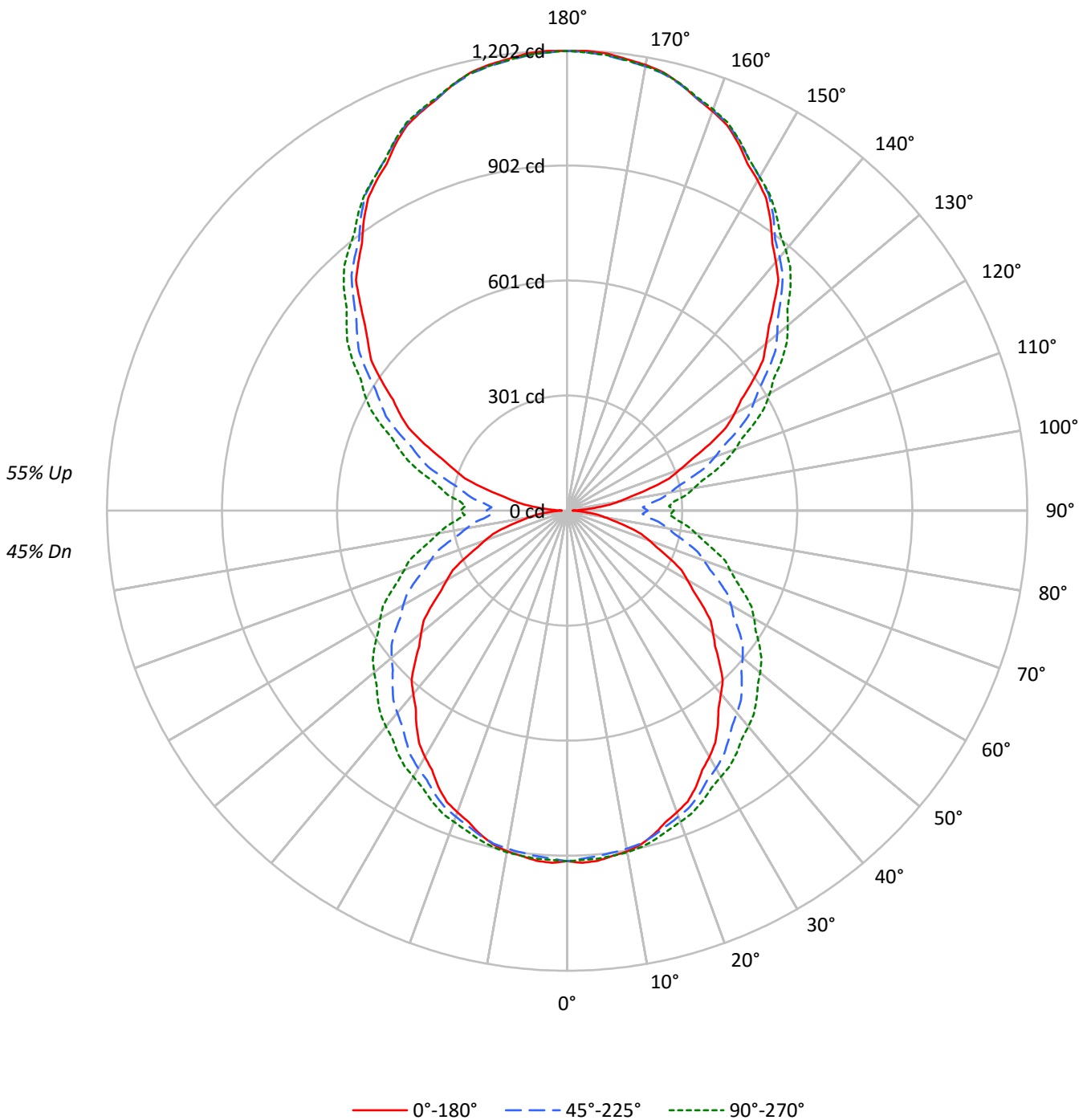
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	95	90	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	35	34	29
3	78	68	60	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	27	30	25	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	11
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	1.3
10°-20°	248.8	3.6
20°-30°	377.0	5.5
30°-40°	459.2	6.7
40°-50°	494.0	7.2
50°-60°	479.7	7.0
60°-70°	418.9	6.1
70°-80°	322.5	4.7
80°-90°	221.2	3.2
90°-100°	225.1	3.3
100°-110°	345.1	5.0
110°-120°	475.7	6.9
120°-130°	571.1	8.3
130°-140°	612.8	8.9
140°-150°	587.3	8.6
150°-160°	490.1	7.2
160°-170°	325.1	4.7
170°-180°	113.6	1.7
0°-30°	712.5	10.4
0°-40°	1171.7	17.1
0°-60°	2145.5	31.3
0°-90°	3108.1	45.3
90°-120°	1045.9	15.3
90°-150°	2817.0	41.1
90°-180°	3746.0	54.7
0°-180°	6853.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	14	104	211	260	279	12
95°	63	136	217	266	282	69
105°	224	268	337	384	400	238
115°	410	433	489	526	539	405
125°	592	603	641	672	684	529
135°	764	775	790	816	825	590
145°	926	933	939	948	950	578
155°	1058	1061	1064	1069	1066	487
165°	1152	1151	1151	1157	1153	325
175°	1198	1195	1193	1200	1194	114
180°	1200	1200	1200	1200	1200	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.2	44.3	62.4	80.6	98.7	117.7	137.5	157.4	177.2	197.1	209.0
90°	14.3	34.1	53.9	73.7	93.5	115.3	139.1	163.0	186.8	210.6	222.0
92.5°	30.2	48.1	66.0	83.9	101.9	120.5	139.8	159.1	178.5	197.8	209.5
95°	63.3	79.4	95.5	111.6	127.7	144.9	163.0	181.1	199.3	217.4	228.6
97.5°	105.5	119.8	134.1	148.4	162.7	178.8	196.6	214.5	232.3	250.2	261.1
100°	137.9	150.6	163.3	176.1	188.8	203.7	220.9	238.1	255.3	272.5	283.4
102.5°	170.9	182.3	193.7	205.1	216.5	230.7	247.6	264.5	281.4	298.3	309.1
105°	224.4	233.6	242.9	252.1	261.3	273.8	289.6	305.4	321.2	336.9	347.7
107.5°	279.6	287.5	295.3	303.1	311.0	322.2	336.9	351.6	366.3	381.0	391.0
110°	314.2	321.5	328.7	336.0	343.2	354.1	368.5	383.0	397.4	411.9	421.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	353.1	359.4	365.7	372.0	378.3	388.3	401.8	415.4	429.0	442.5	451.4
115°	410.4	415.0	419.6	424.2	428.8	437.5	450.4	463.2	476.0	488.8	497.4
117.5°	466.2	470.2	474.1	478.0	481.9	489.4	500.4	511.4	522.4	533.4	541.6
120°	504.3	507.3	510.3	513.3	516.3	522.7	532.7	542.7	552.7	562.7	571.0
122.5°	539.2	541.8	544.4	547.1	549.7	555.9	565.8	575.6	585.4	595.2	602.7
125°	592.1	594.2	596.2	598.2	600.2	605.6	614.4	623.2	631.9	640.7	648.0
127.5°	645.0	647.3	649.5	651.8	654.1	658.6	665.4	672.2	679.0	685.8	692.3
130°	678.2	680.9	683.5	686.1	688.8	692.9	698.7	704.4	710.2	715.9	722.5
132.5°	715.5	717.6	719.7	721.8	723.9	727.3	732.2	737.1	741.9	746.8	752.7
135°	764.0	766.5	769.0	771.4	773.9	776.8	780.2	783.6	787.0	790.4	796.4
137.5°	816.5	818.4	820.4	822.4	824.3	826.3	828.1	830.0	831.9	833.8	839.0
140°	848.1	849.8	851.5	853.3	855.0	856.7	858.4	860.2	861.9	863.6	868.3
142.5°	880.5	882.2	883.9	885.7	887.4	888.7	889.6	890.5	891.4	892.2	896.2
145°	925.7	927.3	928.9	930.5	932.1	933.5	934.9	936.2	937.6	938.9	940.9
147.5°	967.3	969.2	971.1	972.9	974.8	976.2	977.1	978.0	978.9	979.8	980.6
150°	995.6	997.0	998.3	999.7	1001.0	1002.2	1003.1	1004.0	1004.9	1005.8	1006.4
152.5°	1020.8	1022.1	1023.5	1024.8	1026.2	1027.4	1028.5	1029.5	1030.6	1031.7	1032.5
155°	1058.4	1059.1	1059.8	1060.5	1061.1	1061.8	1062.5	1063.2	1063.8	1064.5	1065.6
157.5°	1090.6	1091.1	1091.5	1092.0	1092.4	1092.9	1093.3	1093.7	1094.1	1094.5	1096.0
160°	1110.1	1110.5	1111.0	1111.4	1111.9	1112.2	1112.5	1112.7	1112.9	1113.1	1114.5
162.5°	1127.9	1128.0	1128.1	1128.2	1128.3	1128.4	1128.7	1128.9	1129.1	1129.3	1130.9
165°	1151.6	1151.4	1151.2	1150.9	1150.7	1150.6	1150.6	1150.6	1150.6	1150.6	1152.2
167.5°	1171.5	1170.8	1170.1	1169.4	1168.8	1168.4	1168.4	1168.3	1168.3	1168.2	1169.8
170°	1182.0	1181.3	1180.7	1180.0	1179.3	1178.9	1178.6	1178.4	1178.2	1178.0	1179.5
172.5°	1189.3	1188.6	1187.9	1187.3	1186.6	1186.1	1185.9	1185.7	1185.5	1185.2	1186.8
175°	1198.2	1197.5	1196.9	1196.2	1195.5	1194.9	1194.5	1194.0	1193.6	1193.1	1194.7
177.5°	1201.9	1201.3	1200.8	1200.2	1199.7	1199.2	1198.9	1198.5	1198.2	1197.8	1198.9
180°	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	221.0	232.9	244.9	252.8	256.6	260.4	264.2	268.0
90°	233.3	244.6	256.0	263.5	267.3	271.1	274.8	278.6
92.5°	221.1	232.8	244.4	252.0	255.6	259.2	262.8	266.4
95°	239.8	251.0	262.2	269.4	272.5	275.6	278.7	281.7
97.5°	272.0	282.9	293.8	301.0	304.4	307.9	311.3	314.7
100°	294.3	305.2	316.1	323.1	326.1	329.1	332.1	335.1
102.5°	320.0	330.8	341.7	348.6	351.6	354.7	357.7	360.7
105°	358.5	369.3	380.0	387.0	390.3	393.5	396.8	400.0
107.5°	401.1	411.2	421.3	427.5	429.7	431.9	434.1	436.3
110°	430.7	440.2	449.6	455.6	458.2	460.7	463.3	465.9



TEST NUMBER: P331570

CATALOG NUMBER: S122DIW-S865D970U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	460.3	469.2	478.1	483.9	486.7	489.4	492.2	494.9
115°	506.1	514.7	523.3	528.9	531.5	534.0	536.6	539.2
117.5°	549.8	558.0	566.2	571.4	573.8	576.1	578.4	580.8
120°	579.2	587.5	595.7	601.2	603.7	606.3	608.9	611.4
122.5°	610.2	617.7	625.2	630.0	632.3	634.6	636.9	639.1
125°	655.2	662.5	669.8	674.7	677.1	679.5	682.0	684.4
127.5°	698.8	705.3	711.8	716.0	717.9	719.8	721.6	723.5
130°	729.2	735.8	742.4	746.5	747.9	749.4	750.8	752.3
132.5°	758.5	764.4	770.2	774.0	775.6	777.2	778.9	780.5
135°	802.4	808.3	814.3	818.1	819.8	821.5	823.2	824.9
137.5°	844.3	849.5	854.8	858.0	859.1	860.2	861.3	862.4
140°	873.0	877.7	882.5	885.2	886.1	887.0	887.9	888.7
142.5°	900.2	904.1	908.1	910.4	911.0	911.6	912.3	912.9
145°	942.9	944.9	946.9	948.2	948.8	949.3	949.9	950.5
147.5°	981.3	982.0	982.8	983.1	982.9	982.8	982.6	982.5
150°	1007.1	1007.8	1008.5	1008.5	1007.8	1007.1	1006.4	1005.8
152.5°	1033.4	1034.3	1035.1	1035.1	1034.3	1033.4	1032.5	1031.7
155°	1066.8	1067.9	1069.0	1069.2	1068.6	1067.9	1067.2	1066.5
157.5°	1097.6	1099.1	1100.6	1100.8	1099.8	1098.7	1097.6	1096.5
160°	1115.8	1117.2	1118.5	1118.8	1117.9	1117.0	1116.1	1115.2
162.5°	1132.4	1133.9	1135.5	1135.7	1134.6	1133.5	1132.4	1131.4
165°	1153.8	1155.3	1156.9	1157.1	1156.0	1154.9	1153.8	1152.6
167.5°	1171.4	1173.0	1174.5	1174.7	1173.6	1172.4	1171.2	1170.1
170°	1181.1	1182.7	1184.3	1184.4	1183.0	1181.7	1180.3	1179.0
172.5°	1188.4	1190.0	1191.5	1191.7	1190.3	1189.0	1187.6	1186.3
175°	1196.3	1197.9	1199.4	1199.6	1198.2	1196.9	1195.5	1194.2
177.5°	1200.0	1201.0	1202.1	1202.1	1201.0	1200.0	1198.9	1197.8
180°	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2

(END OF REPORT)