

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: P331999-927

Luminaire Tested: **S123DIP-S775D1195U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331999-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D1195U927-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5934.5 lumens  
Efficiency: N/A  
Efficacy: 104.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

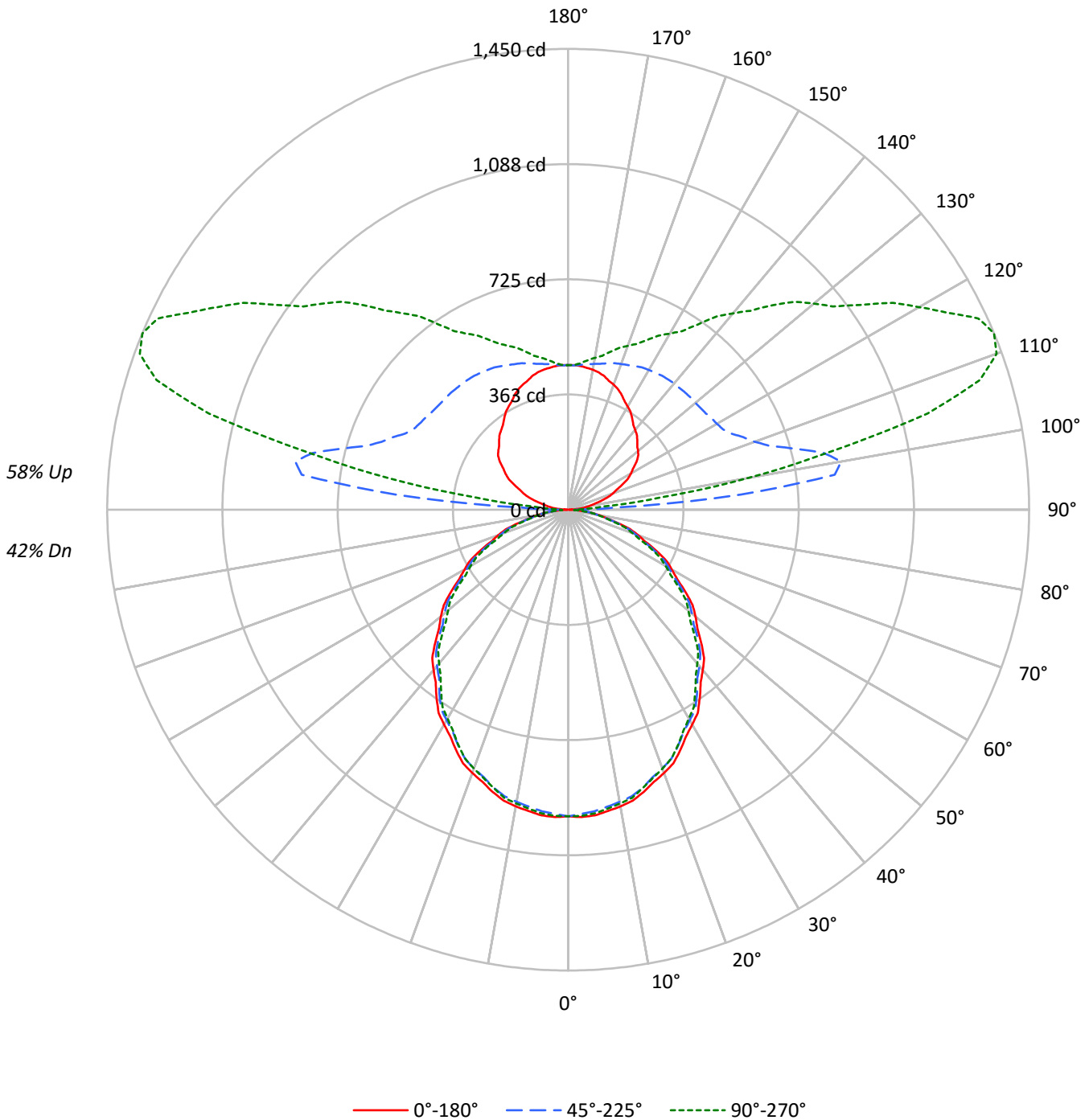
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	96	92	88	84	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	36	35	30
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	34	31	30	25
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	28	25	22
5	67	55	47	41	61	51	44	38	42	37	33	34	31	27	27	24	22	19
6	62	50	42	36	56	46	39	33	38	33	29	31	27	24	25	22	19	16
7	57	45	37	31	52	41	34	29	35	29	25	28	24	21	22	19	17	15
8	53	41	33	28	48	37	31	26	31	26	22	26	22	19	21	18	15	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	18	15	13	11

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

	0°	45°	90°
0°	10384	10384	10384
5°	10432	10289	10361
10°	10363	10200	10263
15°	10242	10085	10104
20°	10100	9919	9929
25°	9911	9723	9704
30°	9701	9506	9434
35°	9483	9276	9155
40°	9254	9021	8882
45°	9003	8788	8573
50°	8751	8500	8264
55°	8422	8203	7955
60°	8088	7858	7608
65°	7796	7480	7246
70°	7361	7046	6735
75°	6729	6488	6209
80°	6069	5808	5759
85°	5323	5125	4915



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.9	1.5
10°-20°	256.6	4.3
20°-30°	379.0	6.4
30°-40°	442.7	7.5
40°-50°	445.1	7.5
50°-60°	391.0	6.6
60°-70°	291.3	4.9
70°-80°	166.0	2.8
80°-90°	51.2	0.9
90°-100°	253.0	4.3
100°-110°	716.5	12.1
110°-120°	704.8	11.9
120°-130°	562.2	9.5
130°-140°	443.3	7.5
140°-150°	330.8	5.6
150°-160°	230.6	3.9
160°-170°	135.5	2.3
170°-180°	44.1	0.7
0°-30°	726.5	12.2
0°-40°	1169.2	19.7
0°-60°	2005.3	33.8
0°-90°	2513.7	42.4
90°-120°	1674.3	28.2
90°-150°	3010.6	50.7
90°-180°	3421.0	57.6
0°-180°	5934.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	965	965	965	965	965	
5°	966	961	952	960	959	91
15°	919	915	905	911	907	259
25°	834	829	819	819	817	384
35°	722	716	706	701	697	451
45°	591	588	577	568	563	456
55°	449	447	437	428	424	402
65°	306	302	294	287	284	302
75°	162	158	156	152	149	173
85°	43	42	42	40	40	47
90°	2	11	23	26	27	4
95°	31	102	546	159	107	34
105°	107	158	740	1294	1171	113
115°	189	235	566	1241	1424	187
125°	262	310	528	957	1123	233
135°	307	367	521	788	910	237
145°	351	402	514	647	712	220
155°	398	430	498	566	590	183
165°	435	448	477	506	514	123
175°	454	454	457	464	463	43
180°	455	455	455	455	455	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7
2.5°	968.0	967.4	966.9	966.2	965.7	964.6	962.9	961.3	959.6	958.1	959.5
5°	965.5	964.6	963.7	962.7	961.8	960.4	958.3	956.3	954.3	952.2	954.1
7.5°	956.1	955.1	954.2	953.3	952.4	950.9	948.7	946.7	944.5	942.5	944.1
10°	948.1	947.1	946.3	945.3	944.4	942.8	940.3	937.9	935.6	933.2	934.9
12.5°	937.5	936.7	936.0	935.2	934.4	932.9	930.7	928.4	926.1	923.8	925.1
15°	919.1	918.3	917.6	916.9	916.1	914.6	912.1	909.7	907.4	905.0	906.4
17.5°	897.6	896.7	895.7	894.8	893.8	892.2	889.8	887.3	884.9	882.6	883.6
20°	881.7	880.6	879.6	878.5	877.3	875.5	873.1	870.8	868.4	865.9	866.7
22.5°	863.8	862.7	861.6	860.5	859.4	857.6	855.2	852.9	850.5	848.0	848.7
25°	834.5	833.4	832.3	831.2	830.0	828.3	825.9	823.5	821.1	818.7	818.9
27.5°	803.1	802.0	801.0	799.9	798.8	797.0	794.4	791.9	789.3	786.6	786.8
30°	780.5	779.6	778.7	777.8	776.8	775.1	772.5	769.9	767.4	764.8	764.8
32.5°	758.0	756.8	755.5	754.3	753.1	751.5	749.5	747.5	745.5	743.5	742.5
35°	721.7	720.6	719.5	718.4	717.2	715.5	713.0	710.7	708.3	705.9	704.8
37.5°	684.4	683.1	681.7	680.2	678.9	677.0	674.5	672.1	669.6	667.3	665.9
40°	658.6	657.5	656.4	655.3	654.2	652.4	649.7	647.2	644.6	642.0	640.6
42.5°	632.7	631.4	630.2	629.0	627.7	625.8	623.2	620.6	618.1	615.4	614.0
45°	591.4	590.7	589.9	589.2	588.4	586.9	584.5	582.1	579.7	577.3	575.1
47.5°	550.4	549.4	548.3	547.2	546.1	544.5	542.2	540.0	537.7	535.5	533.3
50°	522.6	521.7	520.7	519.8	518.9	517.2	514.8	512.5	510.0	507.6	505.6
52.5°	493.4	492.7	492.1	491.5	490.8	489.3	486.7	484.2	481.6	479.1	477.4
55°	448.8	448.5	448.4	448.2	448.0	446.7	444.3	442.0	439.5	437.1	435.1
57.5°	406.3	405.7	405.0	404.4	403.8	402.5	400.6	398.6	396.7	394.8	393.0
60°	375.7	375.6	375.4	375.2	375.0	373.8	371.6	369.4	367.2	365.0	363.3
62.5°	348.6	348.1	347.6	347.1	346.7	345.3	343.1	340.9	338.7	336.4	334.8
65°	306.1	305.1	304.2	303.3	302.4	301.0	299.1	297.3	295.5	293.7	292.2
67.5°	261.1	260.3	259.5	258.6	257.9	256.7	255.4	254.0	252.5	251.2	249.9
70°	233.9	232.8	231.7	230.6	229.5	228.4	227.3	226.2	225.1	223.9	222.7
72.5°	205.4	204.5	203.7	203.0	202.2	201.1	199.9	198.6	197.3	196.1	195.0
75°	161.8	161.0	160.3	159.5	158.8	158.1	157.6	157.0	156.5	156.0	155.0
77.5°	123.1	122.7	122.3	121.9	121.4	121.0	120.3	119.6	119.0	118.3	117.6
80°	97.9	97.4	96.8	96.3	95.7	95.2	94.8	94.5	94.1	93.7	93.6
82.5°	73.4	73.2	73.1	73.0	72.9	72.8	72.7	72.6	72.6	72.5	72.2
85°	43.1	42.8	42.4	42.1	41.7	41.5	41.5	41.5	41.5	41.5	41.1
87.5°	17.6	17.6	17.5	17.6	17.5	17.6	18.0	18.4	18.8	19.2	18.9
90°	1.8	3.6	5.5	8.3	10.1	12.0	14.7	17.5	20.3	23.0	22.1
92.5°	11.4	17.0	24.6	31.8	39.6	53.2	77.3	116.9	155.7	141.6	106.8
95°	31.3	34.1	44.2	59.8	83.7	119.6	197.9	335.0	486.0	545.8	442.7
97.5°	53.4	54.3	62.2	75.8	99.4	138.2	213.0	367.6	619.2	845.8	904.9
100°	68.1	69.0	75.5	88.3	110.4	146.3	210.8	347.0	589.1	871.6	1053.0
102.5°	83.6	85.2	90.9	103.1	122.9	155.9	213.7	329.3	544.9	823.8	1060.3
105°	106.8	109.6	115.0	126.1	143.5	172.1	221.8	316.6	490.6	740.0	1004.2
107.5°	131.4	134.2	139.5	150.4	166.8	193.3	236.9	315.7	456.0	666.0	905.9
110°	149.1	151.9	156.5	166.6	182.2	208.0	249.5	319.4	442.7	624.0	844.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.3	168.1	172.7	182.8	198.4	223.5	262.0	326.8	435.4	596.0	790.3
115°	188.7	192.3	197.9	207.1	222.8	247.6	282.6	338.7	432.6	566.0	725.2
117.5°	212.1	216.3	220.9	229.3	246.8	269.9	304.4	354.5	434.3	548.3	686.0
120°	228.2	231.0	235.6	244.9	262.3	285.3	318.5	366.3	437.2	540.3	665.4
122.5°	242.2	245.0	249.6	259.5	276.3	300.8	333.2	377.4	442.4	535.1	648.5
125°	262.3	264.2	269.7	279.8	297.3	322.1	354.3	394.8	450.0	528.3	626.8
127.5°	277.6	280.4	287.2	297.5	316.8	341.7	372.7	409.2	458.9	525.0	607.7
130°	287.2	289.9	298.2	309.3	328.6	353.4	383.8	418.7	464.8	522.8	597.3
132.5°	294.5	298.0	307.0	320.3	339.6	363.8	393.4	427.6	469.2	522.0	587.8
135°	307.4	311.1	321.2	335.0	354.3	379.2	407.7	439.0	475.9	520.9	575.3
137.5°	319.6	323.4	333.4	348.1	367.3	390.2	417.6	447.5	480.3	518.9	564.4
140°	327.6	332.2	341.4	356.2	374.6	397.6	424.3	451.9	483.2	518.2	557.8
142.5°	336.5	340.4	350.3	363.5	382.0	403.5	429.4	456.3	485.4	516.7	551.8
145°	350.7	353.4	361.7	375.5	391.2	412.3	436.3	461.1	486.9	514.5	544.0
147.5°	365.0	366.7	374.8	386.7	401.9	419.9	441.8	464.1	486.9	511.0	536.2
150°	374.6	375.5	382.9	394.8	407.7	424.3	445.4	464.8	486.9	508.0	531.1
152.5°	384.2	384.4	391.7	402.2	413.6	429.4	447.7	466.3	484.7	504.4	525.2
155°	398.5	398.5	404.1	413.3	423.3	436.3	451.9	466.7	482.3	498.0	516.3
157.5°	410.0	410.7	415.1	423.2	431.8	441.8	454.3	467.5	479.2	492.3	506.4
160°	418.7	418.7	422.5	429.8	436.3	445.4	456.5	467.5	477.7	487.8	499.8
162.5°	425.4	425.4	428.3	434.3	440.0	447.7	457.2	466.8	474.8	483.4	493.1
165°	435.4	434.4	436.3	440.8	444.6	451.0	458.4	464.8	470.3	476.7	484.1
167.5°	442.9	441.8	442.7	446.2	448.8	452.8	458.2	463.3	465.9	470.2	475.5
170°	447.3	445.4	446.4	449.2	451.0	452.8	457.4	461.1	463.0	465.7	470.3
172.5°	450.3	449.2	449.3	451.4	452.5	453.6	457.4	460.4	460.7	462.0	465.2
175°	453.8	452.8	451.9	453.8	453.8	454.7	456.5	458.4	457.4	457.4	459.3
177.5°	455.4	454.7	453.9	454.7	454.7	454.7	455.4	456.9	455.4	454.7	455.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7
2.5°	961.0	962.5	963.9	964.6	964.5	964.3	964.2	964.0
5°	955.9	957.7	959.6	960.4	960.0	959.6	959.3	958.9
7.5°	945.8	947.5	949.1	949.8	949.6	949.4	949.1	949.0
10°	936.5	938.1	939.8	940.5	940.1	939.7	939.4	939.0
12.5°	926.3	927.5	928.8	929.2	929.0	928.8	928.6	928.4
15°	907.9	909.3	910.9	911.0	909.9	908.8	907.8	906.7
17.5°	884.6	885.7	886.7	887.0	886.6	886.2	885.8	885.4
20°	867.4	868.2	868.9	869.0	868.5	867.9	867.4	866.8
22.5°	849.2	849.9	850.4	850.3	849.7	849.0	848.3	847.6
25°	819.0	819.3	819.4	819.3	818.7	818.2	817.6	817.1
27.5°	787.0	787.1	787.3	787.0	786.3	785.6	784.9	784.2
30°	764.8	764.8	764.8	764.1	762.9	761.5	760.3	759.0
32.5°	741.5	740.5	739.4	738.6	737.8	737.1	736.4	735.8
35°	703.7	702.6	701.5	700.4	699.5	698.6	697.7	696.7
37.5°	664.6	663.2	661.9	661.0	660.4	659.8	659.2	658.6
40°	639.1	637.6	636.1	635.0	634.3	633.5	632.8	632.1
42.5°	612.5	611.0	609.6	608.5	607.8	607.0	606.3	605.5
45°	572.9	570.7	568.5	566.9	566.0	565.1	564.1	563.2
47.5°	531.2	529.0	526.8	525.3	524.5	523.7	522.9	522.0
50°	503.6	501.5	499.6	498.0	496.9	495.7	494.6	493.5
52.5°	475.6	473.9	472.1	470.8	469.7	468.6	467.5	466.4
55°	433.1	431.0	429.0	427.5	426.6	425.7	424.8	423.9
57.5°	391.2	389.4	387.6	386.2	385.1	384.0	382.9	381.9
60°	361.6	360.0	358.3	357.0	356.1	355.2	354.3	353.4
62.5°	333.1	331.4	329.8	328.7	328.0	327.4	326.8	326.1
65°	290.7	289.2	287.7	286.7	286.1	285.6	285.0	284.5
67.5°	248.6	247.3	246.0	244.9	244.2	243.4	242.6	241.9
70°	221.4	220.1	218.8	217.7	216.7	215.9	214.9	214.0
72.5°	193.8	192.7	191.5	190.7	190.2	189.7	189.3	188.8
75°	154.1	153.2	152.3	151.5	151.0	150.4	149.9	149.3
77.5°	117.0	116.4	115.7	115.5	115.5	115.5	115.5	115.5
80°	93.4	93.2	93.0	92.9	92.9	92.9	92.9	92.9
82.5°	71.9	71.5	71.1	70.9	70.8	70.7	70.5	70.3
85°	40.7	40.4	40.0	39.8	39.8	39.8	39.8	39.8
87.5°	18.9	18.9	19.0	19.3	19.1	19.3	19.5	19.3
90°	23.0	23.9	24.9	26.7	25.7	26.7	27.6	26.7
92.5°	77.5	61.5	54.3	49.5	47.8	45.1	46.0	44.4
95°	331.4	224.6	175.8	142.7	125.2	116.9	110.4	106.8
97.5°	825.9	661.6	542.9	432.8	364.9	323.4	298.6	290.7
100°	1085.1	1010.6	902.9	772.2	679.2	612.0	576.2	577.1
102.5°	1171.3	1168.9	1106.1	1023.3	950.9	897.8	867.8	846.6
105°	1196.5	1288.6	1306.1	1282.1	1239.8	1204.8	1175.4	1170.8
107.5°	1123.9	1273.4	1354.1	1386.9	1387.6	1375.8	1365.9	1357.4
110°	1054.8	1224.2	1340.1	1404.5	1430.3	1437.7	1435.8	1434.0





TEST NUMBER: P331999-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	986.3	1159.4	1289.3	1372.1	1419.3	1442.1	1449.1	1449.5
115°	895.6	1055.7	1191.0	1291.3	1360.3	1400.8	1419.3	1423.9
117.5°	829.8	968.0	1089.6	1191.4	1263.4	1309.7	1336.3	1342.5
120°	795.2	919.5	1029.9	1122.9	1195.6	1247.1	1269.2	1274.8
122.5°	767.9	880.4	982.8	1069.1	1133.8	1180.1	1204.4	1211.4
125°	731.7	832.0	920.4	994.0	1053.0	1093.4	1116.4	1122.9
127.5°	700.1	789.5	869.2	936.2	988.7	1023.3	1044.1	1050.0
130°	680.2	763.0	837.6	900.2	949.0	982.1	1001.4	1008.8
132.5°	661.8	738.0	807.4	867.0	912.8	945.9	963.1	968.3
135°	636.9	702.3	762.1	814.5	859.7	887.2	903.8	910.3
137.5°	614.3	667.8	719.4	764.9	802.8	830.8	844.7	849.0
140°	601.0	647.9	692.1	731.7	766.7	792.5	807.2	806.3
142.5°	588.5	628.8	667.1	701.6	731.3	754.2	767.4	766.5
145°	573.4	603.8	633.3	659.9	682.9	702.3	709.6	711.5
147.5°	561.1	585.2	609.0	627.9	645.4	658.5	665.4	666.1
150°	552.2	573.4	592.7	610.2	624.0	634.1	639.7	639.7
152.5°	544.2	562.4	579.5	594.1	604.9	614.3	617.6	617.6
155°	532.0	546.7	560.5	571.6	579.9	587.2	589.1	589.9
157.5°	519.1	531.5	542.1	550.7	557.9	563.5	564.9	564.7
160°	511.7	521.9	531.1	537.5	544.0	549.5	549.5	548.6
162.5°	502.9	511.6	520.0	525.7	530.0	534.7	534.7	533.9
165°	491.5	497.0	503.4	508.0	511.7	515.4	514.5	514.5
167.5°	481.6	485.8	489.5	492.8	494.4	497.0	496.1	496.1
170°	474.9	477.7	481.3	483.2	484.1	486.0	485.1	485.1
172.5°	469.1	471.0	474.0	475.1	475.3	477.1	475.5	474.8
175°	461.1	462.0	463.9	463.9	463.9	464.8	463.9	463.0
177.5°	456.1	456.9	457.6	457.6	456.9	457.6	456.1	456.1
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7

(END OF REPORT)