

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: P331896

Luminaire Tested: **S123DIP-S340D1025U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331896  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D1025U835-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4961.9 lumens  
Efficiency: N/A  
Efficacy: 133.0 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: Semi-Indirect

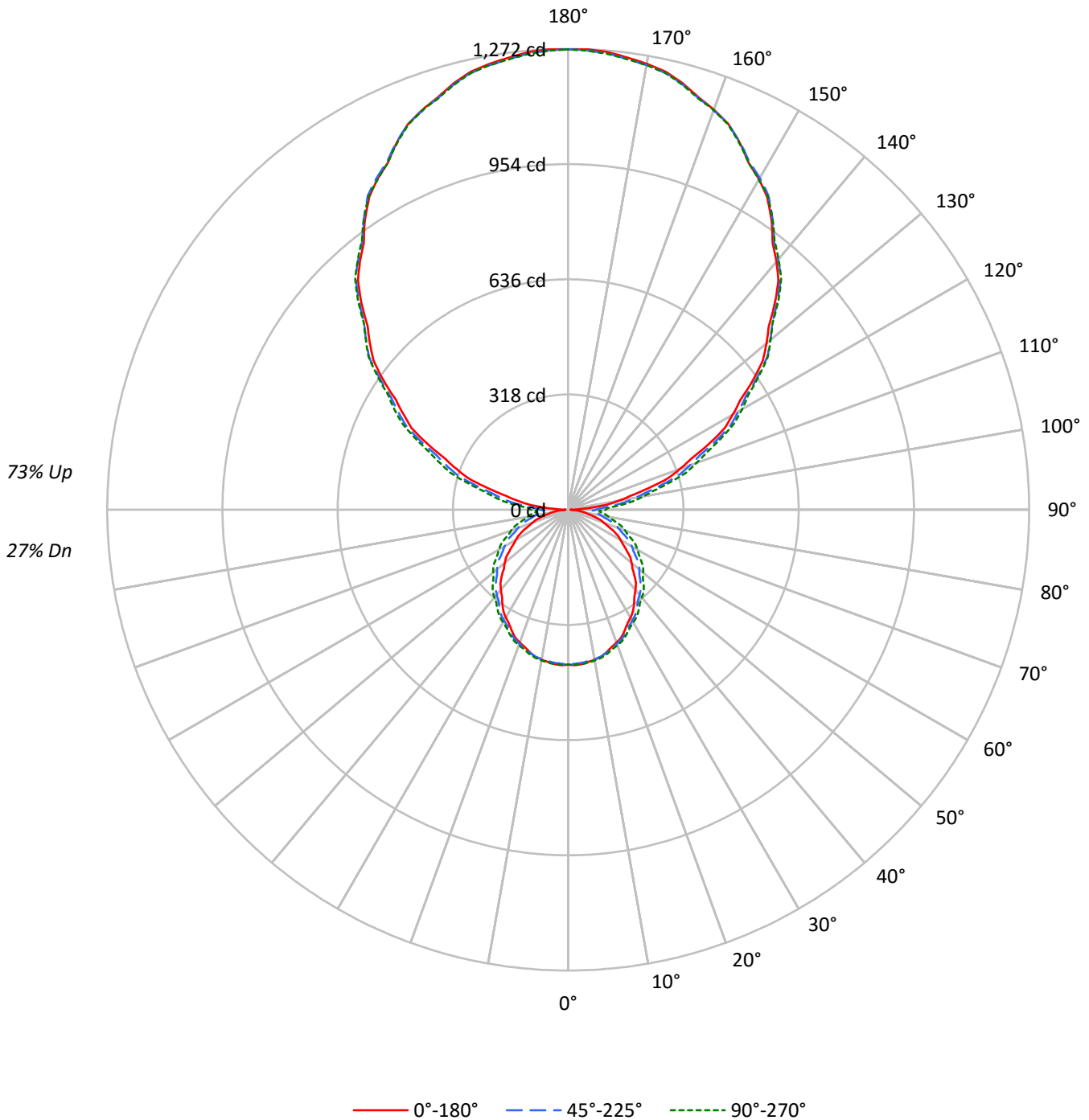
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27				
1	92	88	84	80	82	78	75	72	61	58	56	45	43	42	30	29	28	21				
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17				
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	23	21	19	14				
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	17	12				
5	63	52	44	38	56	47	40	35	36	32	28	27	24	21	18	16	14	11				
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	13	9				
7	54	42	34	29	48	38	31	26	29	25	21	22	18	16	15	13	11	8				
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	11	10	7				
9	46	34	27	22	41	31	25	20	24	20	16	18	15	13	12	10	9	6				
10	43	31	24	20	38	28	22	18	22	18	15	17	14	11	12	9	8	6				

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

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.5	0.8
10°-20°	115.6	2.3
20°-30°	172.9	3.5
30°-40°	206.5	4.2
40°-50°	216.0	4.4
50°-60°	202.7	4.1
60°-70°	169.3	3.4
70°-80°	121.1	2.4
80°-90°	76.0	1.5
90°-100°	128.1	2.6
100°-110°	281.1	5.7
110°-120°	443.7	8.9
120°-130°	567.0	11.4
130°-140°	628.7	12.7
140°-150°	613.6	12.4
150°-160°	515.6	10.4
160°-170°	343.2	6.9
170°-180°	120.2	2.4
0°-30°	329.0	6.6
0°-40°	535.5	10.8
0°-60°	954.2	19.2
0°-90°	1320.6	26.6
90°-120°	852.9	17.2
90°-150°	2662.3	53.7
90°-180°	3641.0	73.4
0°-180°	4961.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	7	40	77	96	103	8
95°	64	90	120	138	143	70
105°	228	242	270	283	290	244
115°	427	436	450	462	465	422
125°	622	626	637	642	642	555
135°	806	812	816	820	821	621
145°	978	979	982	985	983	610
155°	1119	1119	1120	1123	1117	515
165°	1219	1216	1216	1221	1215	344
175°	1268	1264	1264	1269	1263	120
180°	1271	1271	1271	1271	1271	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.6	18.2	23.8	29.4	35.0	40.7	46.6	52.4	58.3	64.2	67.9
90°	7.1	14.3	21.6	28.9	36.2	44.0	52.1	60.3	68.4	76.6	81.0
92.5°	29.8	35.9	42.0	48.1	54.2	60.6	67.5	74.3	81.2	88.0	92.1
95°	64.0	69.6	75.2	80.8	86.4	92.6	99.5	106.3	113.1	120.0	124.1
97.5°	109.2	114.0	118.8	123.6	128.4	133.8	140.0	146.1	152.2	158.4	162.5
100°	139.9	144.6	149.2	153.9	158.5	163.8	169.7	175.5	181.4	187.3	190.9
102.5°	175.5	179.3	183.1	186.9	190.6	195.6	201.7	207.9	214.0	220.2	223.8
105°	228.3	231.3	234.2	237.1	240.0	244.7	251.2	257.6	264.1	270.5	273.4
107.5°	289.3	291.6	294.0	296.4	298.8	302.5	307.5	312.5	317.5	322.6	326.0
110°	327.2	329.5	331.8	334.1	336.4	339.9	344.5	349.1	353.6	358.2	361.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.1	368.9	370.7	372.5	374.3	377.3	381.3	385.4	389.5	393.5	397.2
115°	426.6	428.5	430.4	432.3	434.2	436.8	440.1	443.4	446.6	449.9	452.6
117.5°	486.8	488.0	489.2	490.4	491.6	493.7	496.6	499.5	502.4	505.4	507.8
120°	523.9	525.8	527.6	529.5	531.3	533.4	535.7	538.0	540.3	542.6	544.8
122.5°	563.1	564.3	565.5	566.8	568.0	570.0	572.7	575.3	578.0	580.7	582.4
125°	622.3	622.9	623.6	624.3	624.9	626.6	629.1	631.7	634.2	636.8	638.1
127.5°	677.4	678.7	680.0	681.3	682.6	684.3	686.3	688.3	690.3	692.3	693.1
130°	714.1	715.8	717.5	719.1	720.8	722.3	723.7	725.2	726.6	728.0	729.0
132.5°	750.5	752.2	754.0	755.7	757.5	759.0	760.1	761.3	762.5	763.6	764.5
135°	806.5	807.7	808.9	810.2	811.4	812.5	813.4	814.3	815.2	816.1	817.1
137.5°	858.3	859.3	860.4	861.4	862.4	863.5	864.7	866.0	867.2	868.4	869.1
140°	893.9	895.0	896.1	897.2	898.3	899.1	899.7	900.2	900.7	901.2	902.6
142.5°	926.6	927.6	928.7	929.7	930.7	931.5	931.9	932.4	932.8	933.3	934.5
145°	977.7	978.1	978.4	978.7	979.1	979.6	980.2	980.9	981.6	982.2	982.8
147.5°	1022.0	1022.8	1023.6	1024.4	1025.2	1025.9	1026.5	1027.1	1027.7	1028.4	1028.6
150°	1053.1	1053.6	1054.0	1054.4	1054.9	1055.3	1055.8	1056.2	1056.7	1057.1	1057.1
152.5°	1078.7	1079.3	1079.9	1080.5	1081.1	1081.6	1081.9	1082.1	1082.4	1082.7	1083.0
155°	1119.0	1119.0	1119.0	1119.0	1119.0	1119.1	1119.3	1119.5	1119.8	1120.0	1120.9
157.5°	1153.3	1153.1	1152.8	1152.5	1152.3	1152.2	1152.4	1152.6	1152.8	1152.9	1153.9
160°	1174.9	1174.4	1174.0	1173.6	1173.1	1172.9	1172.9	1172.9	1172.9	1172.9	1174.0
162.5°	1194.1	1193.4	1192.8	1192.2	1191.6	1191.4	1191.5	1191.7	1191.9	1192.1	1193.2
165°	1218.8	1218.1	1217.5	1216.8	1216.2	1215.8	1215.8	1215.8	1215.8	1215.8	1217.1
167.5°	1238.6	1237.7	1236.8	1235.9	1235.0	1234.7	1234.9	1235.0	1235.2	1235.4	1236.8
170°	1249.8	1248.9	1248.0	1247.1	1246.2	1245.8	1245.8	1245.8	1245.8	1245.8	1247.3
172.5°	1258.5	1257.7	1256.8	1255.9	1255.0	1254.5	1254.5	1254.5	1254.5	1254.5	1255.9
175°	1267.7	1266.8	1265.9	1265.1	1264.2	1263.7	1263.7	1263.7	1263.7	1263.7	1265.1
177.5°	1271.5	1270.8	1270.1	1269.4	1268.7	1268.3	1268.3	1268.3	1268.3	1268.3	1269.4
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	71.5	75.2	78.9	81.4	82.5	83.6	84.7	85.9
90°	85.4	89.8	94.2	97.2	98.7	100.1	101.6	103.1
92.5°	96.3	100.4	104.6	107.0	107.7	108.4	109.1	109.8
95°	128.2	132.3	136.4	139.0	140.0	141.0	142.1	143.1
97.5°	166.6	170.7	174.8	177.3	178.3	179.2	180.2	181.1
100°	194.6	198.3	201.9	204.5	206.0	207.5	209.0	210.4
102.5°	227.3	230.9	234.5	236.8	237.7	238.7	239.6	240.6
105°	276.3	279.2	282.1	284.3	285.6	287.0	288.4	289.8
107.5°	329.5	333.0	336.5	338.6	339.2	339.9	340.5	341.1
110°	365.4	369.0	372.5	374.5	374.9	375.3	375.7	376.1





TEST NUMBER: P331896

CATALOG NUMBER: S123DIP-S340D1025U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	400.9	404.5	408.2	410.5	411.3	412.1	412.9	413.8
115°	455.3	458.1	460.8	462.4	463.0	463.6	464.2	464.8
117.5°	510.2	512.6	515.0	516.3	516.5	516.7	516.9	517.1
120°	547.0	549.1	551.3	552.5	552.8	553.1	553.3	553.6
122.5°	584.1	585.9	587.6	588.5	588.6	588.7	588.8	588.9
125°	639.4	640.7	641.9	642.5	642.3	642.2	642.0	641.9
127.5°	693.9	694.7	695.5	695.8	695.5	695.1	694.8	694.5
130°	730.1	731.2	732.3	732.4	731.4	730.5	729.6	728.6
132.5°	765.3	766.1	766.9	767.1	766.6	766.1	765.6	765.1
135°	818.1	819.1	820.0	820.6	820.6	820.7	820.8	820.9
137.5°	869.8	870.5	871.2	871.4	871.1	870.8	870.4	870.1
140°	903.9	905.2	906.6	906.7	905.7	904.7	903.6	902.6
142.5°	935.6	936.8	938.0	938.2	937.5	936.8	936.2	935.5
145°	983.4	984.1	984.7	984.7	984.3	983.8	983.3	982.8
147.5°	1028.9	1029.1	1029.3	1029.0	1028.0	1027.1	1026.1	1025.2
150°	1057.1	1057.1	1057.1	1056.5	1055.4	1054.3	1053.2	1052.0
152.5°	1083.4	1083.7	1084.1	1083.7	1082.6	1081.5	1080.4	1079.2
155°	1121.8	1122.7	1123.5	1123.2	1121.7	1120.1	1118.5	1117.0
157.5°	1154.8	1155.7	1156.7	1156.5	1155.3	1154.0	1152.8	1151.5
160°	1175.1	1176.2	1177.3	1177.4	1176.6	1175.7	1174.8	1173.9
162.5°	1194.3	1195.4	1196.5	1196.3	1194.9	1193.5	1192.1	1190.7
165°	1218.5	1219.8	1221.1	1221.0	1219.5	1217.9	1216.4	1214.8
167.5°	1238.1	1239.5	1240.9	1240.9	1239.5	1238.1	1236.8	1235.4
170°	1248.9	1250.4	1252.0	1252.0	1250.4	1248.9	1247.3	1245.8
172.5°	1257.3	1258.7	1260.0	1260.0	1258.4	1256.9	1255.3	1253.7
175°	1266.4	1267.7	1269.1	1268.9	1267.4	1265.8	1264.3	1262.7
177.5°	1270.5	1271.5	1272.6	1272.5	1271.3	1270.0	1268.8	1267.5
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7

(END OF REPORT)