

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: P331889-830

Luminaire Tested: **S123DIP-S340D805U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331889-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D805U830-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4356.5 lumens  
Efficiency: N/A  
Efficacy: 139.6 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: Semi-Indirect

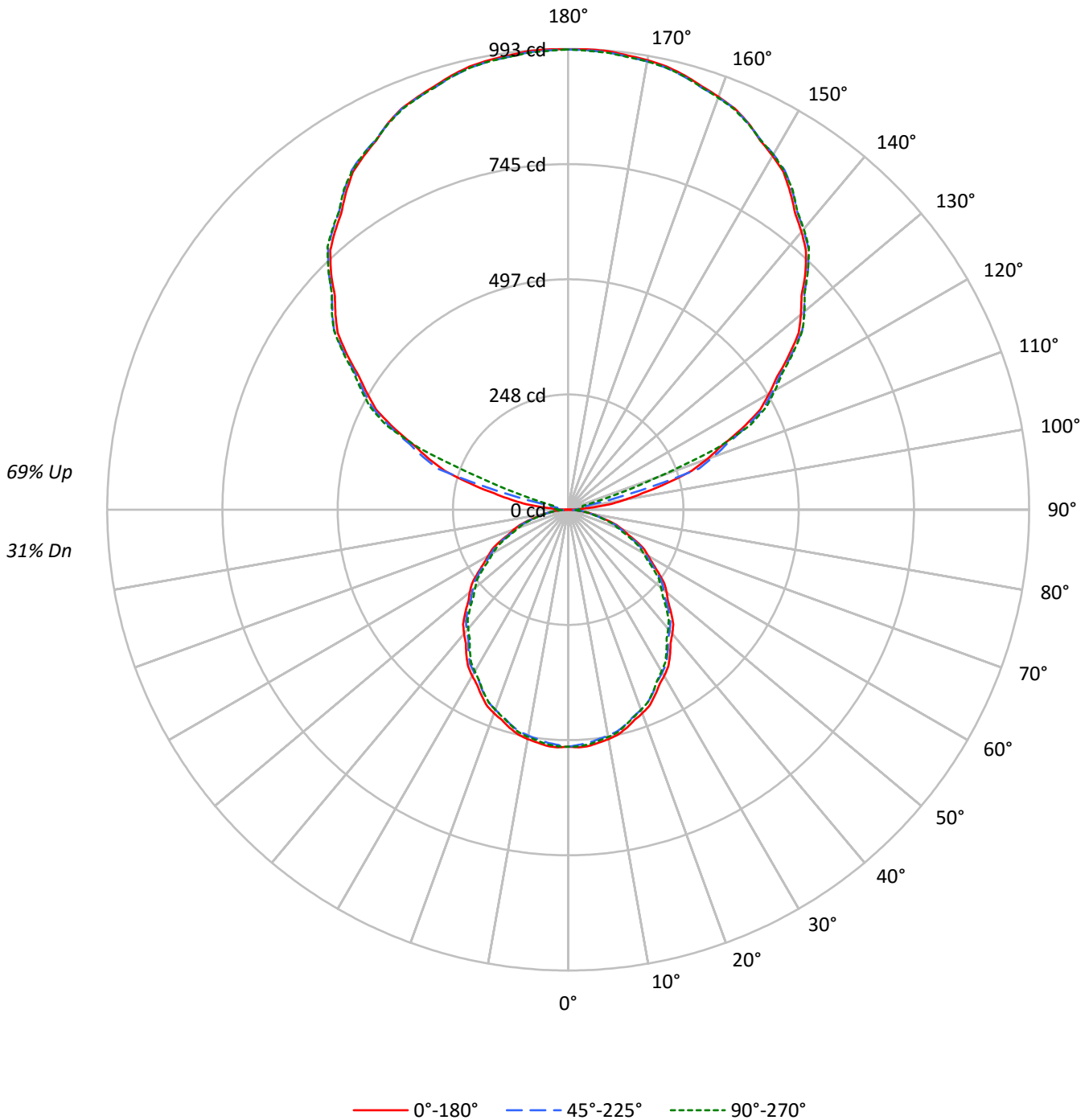
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31
1	93	89	85	82	84	80	77	74	63	61	59	48	47	45	34	33	32	26
2	85	78	72	67	76	70	65	61	55	52	49	42	40	38	30	28	27	21
3	77	68	61	56	69	62	56	51	49	45	41	37	34	32	26	24	23	18
4	71	60	53	47	63	54	48	43	43	39	35	33	30	27	23	21	20	16
5	65	54	46	40	58	48	42	37	39	34	30	30	26	23	21	19	17	13
6	60	48	40	34	53	43	37	32	35	30	26	27	23	20	19	17	15	12
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13	10
8	51	39	32	26	46	35	29	24	29	24	20	22	19	16	16	14	12	9
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11	8
10	44	32	25	21	40	30	23	19	24	19	16	19	15	13	14	11	10	8

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

	0°	45°	90°
0°	5498	5498	5498
5°	5524	5448	5486
10°	5487	5400	5434
15°	5422	5340	5349
20°	5347	5252	5257
25°	5247	5149	5138
30°	5137	5033	4994
35°	5021	4911	4847
40°	4900	4776	4703
45°	4766	4654	4539
50°	4632	4501	4376
55°	4459	4344	4211
60°	4284	4159	4028
65°	4126	3958	3836
70°	3899	3733	3566
75°	3564	3435	3290
80°	3211	3081	3050
85°	2816	2717	2606



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.1	1.1
10°-20°	135.9	3.1
20°-30°	200.7	4.6
30°-40°	234.4	5.4
40°-50°	235.7	5.4
50°-60°	207.0	4.8
60°-70°	154.2	3.5
70°-80°	87.9	2.0
80°-90°	28.0	0.6
90°-100°	36.1	0.8
100°-110°	171.9	3.9
110°-120°	412.8	9.5
120°-130°	525.7	12.1
130°-140°	561.7	12.9
140°-150°	525.2	12.1
150°-160°	423.7	9.7
160°-170°	273.4	6.3
170°-180°	94.2	2.2
0°-30°	384.6	8.8
0°-40°	619.1	14.2
0°-60°	1061.7	24.4
0°-90°	1331.8	30.6
90°-120°	620.7	14.2
90°-150°	2233.3	51.3
90°-180°	3025.0	69.4
0°-180°	4356.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	511	511	511	511	511	
5°	511	509	504	508	508	48
15°	487	485	479	482	480	137
25°	442	439	434	434	433	203
35°	382	379	374	371	369	239
45°	313	311	306	301	298	242
55°	238	237	232	227	224	213
65°	162	160	155	152	151	160
75°	86	84	83	80	79	92
85°	23	22	22	21	21	25
90°	1	8	18	21	22	3
95°	45	17	23	28	28	56
105°	220	224	161	38	32	233
115°	412	416	423	430	433	406
125°	581	586	590	591	592	518
135°	723	727	730	732	730	556
145°	834	839	841	842	842	522
155°	919	918	918	921	917	423
165°	969	967	966	971	967	274
175°	992	988	989	993	988	94
180°	992	992	992	992	992	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	512.6	512.2	511.9	511.6	511.2	510.7	509.8	509.0	508.1	507.3	508.0
5°	511.2	510.7	510.2	509.7	509.3	508.5	507.4	506.3	505.2	504.2	505.1
7.5°	506.2	505.7	505.2	504.7	504.3	503.4	502.4	501.2	500.1	499.0	499.8
10°	502.0	501.5	501.0	500.5	500.0	499.2	497.9	496.6	495.3	494.1	494.9
12.5°	496.3	496.0	495.5	495.1	494.7	493.9	492.8	491.5	490.3	489.2	489.8
15°	486.6	486.3	485.8	485.4	485.0	484.2	483.0	481.6	480.4	479.2	479.9
17.5°	475.2	474.8	474.3	473.7	473.3	472.4	471.1	469.9	468.5	467.3	467.8
20°	466.8	466.3	465.7	465.1	464.5	463.5	462.3	461.0	459.8	458.5	458.9
22.5°	457.3	456.8	456.2	455.6	455.1	454.1	452.8	451.6	450.3	449.0	449.3
25°	441.8	441.2	440.6	440.1	439.5	438.6	437.2	436.0	434.7	433.5	433.6
27.5°	425.2	424.6	424.0	423.5	422.9	422.0	420.7	419.2	417.9	416.5	416.6
30°	413.3	412.7	412.3	411.8	411.3	410.4	409.1	407.6	406.3	404.9	404.9
32.5°	401.3	400.7	400.0	399.4	398.8	397.8	396.8	395.8	394.7	393.7	393.1
35°	382.1	381.5	380.9	380.3	379.8	378.8	377.6	376.3	375.0	373.7	373.2
37.5°	362.4	361.7	360.9	360.1	359.5	358.4	357.1	355.8	354.6	353.3	352.6
40°	348.7	348.1	347.5	346.9	346.4	345.3	344.0	342.6	341.3	339.9	339.1
42.5°	335.0	334.3	333.7	333.0	332.3	331.3	330.0	328.6	327.3	325.8	325.1
45°	313.1	312.7	312.4	312.0	311.6	310.8	309.4	308.2	306.9	305.7	304.5
47.5°	291.4	290.9	290.3	289.7	289.2	288.3	287.1	285.9	284.7	283.5	282.4
50°	276.6	276.2	275.7	275.2	274.8	273.8	272.6	271.4	270.0	268.8	267.7
52.5°	261.2	260.9	260.5	260.2	259.9	259.0	257.7	256.4	255.1	253.6	252.8
55°	237.6	237.5	237.4	237.3	237.2	236.5	235.3	233.9	232.7	231.5	230.4
57.5°	215.1	214.8	214.4	214.1	213.8	213.1	212.1	211.0	210.1	209.1	208.1
60°	199.0	198.9	198.8	198.7	198.6	197.9	196.7	195.6	194.4	193.2	192.4
62.5°	184.5	184.3	184.1	183.8	183.5	182.9	181.6	180.5	179.3	178.1	177.3
65°	162.0	161.6	161.1	160.6	160.1	159.4	158.4	157.4	156.5	155.4	154.7
67.5°	138.3	137.8	137.4	137.0	136.6	135.9	135.3	134.5	133.7	133.0	132.3
70°	123.9	123.3	122.7	122.1	121.5	120.9	120.4	119.7	119.1	118.6	117.9
72.5°	108.8	108.3	107.9	107.4	107.0	106.5	105.8	105.2	104.5	103.9	103.2
75°	85.7	85.2	84.8	84.5	84.1	83.7	83.4	83.1	82.8	82.6	82.1
77.5°	65.1	64.9	64.8	64.6	64.3	64.0	63.7	63.3	63.0	62.6	62.3
80°	51.8	51.6	51.3	51.0	50.6	50.4	50.2	50.0	49.9	49.7	49.5
82.5°	38.8	38.7	38.7	38.6	38.5	38.5	38.5	38.5	38.5	38.4	38.2
85°	22.8	22.6	22.4	22.2	22.1	22.0	22.0	22.0	22.0	22.0	21.8
87.5°	9.2	9.3	9.4	9.5	9.6	9.9	10.2	10.6	10.9	11.3	11.3
90°	0.8	2.4	4.1	5.7	7.3	9.1	11.3	13.4	15.6	17.7	18.4
92.5°	13.7	13.3	12.8	12.3	11.9	12.4	14.0	15.6	17.2	18.9	19.9
95°	45.0	38.3	31.5	24.8	18.1	15.6	17.4	19.2	21.0	22.8	24.0
97.5°	90.3	87.4	84.4	81.3	78.3	70.9	59.1	47.3	35.5	23.8	25.1
100°	124.5	127.8	131.1	134.3	137.6	126.5	100.9	75.4	49.9	24.3	25.6
102.5°	163.4	165.8	168.1	170.5	172.9	160.1	132.2	104.2	76.3	48.4	44.4
105°	219.6	221.4	223.2	225.0	226.8	220.4	205.6	190.9	176.1	161.4	132.4
107.5°	278.8	280.3	281.7	283.1	284.6	286.4	288.8	291.2	293.4	295.8	274.6
110°	318.3	319.6	320.9	322.3	323.6	325.1	327.0	328.8	330.5	332.3	327.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	356.1	357.2	358.4	359.6	360.8	362.2	364.1	365.9	367.7	369.5	369.6
115°	411.9	412.9	413.9	414.9	415.8	417.1	418.6	420.0	421.5	423.0	424.6
117.5°	466.0	467.2	468.4	469.7	470.8	471.8	472.6	473.3	474.1	474.9	476.2
120°	499.6	501.1	502.6	504.0	505.5	506.5	507.0	507.5	507.9	508.4	509.7
122.5°	533.8	535.0	536.2	537.4	538.7	539.5	540.2	540.8	541.4	542.1	543.0
125°	580.7	581.9	583.2	584.6	585.9	586.9	587.6	588.1	588.8	589.5	589.8
127.5°	626.0	627.4	628.7	630.0	631.3	632.4	633.1	634.0	634.7	635.5	636.0
130°	654.3	655.6	657.0	658.3	659.6	660.5	661.2	661.9	662.5	663.2	663.8
132.5°	681.5	682.8	684.1	685.4	686.7	687.6	688.2	688.6	689.2	689.8	690.4
135°	722.8	723.9	724.8	725.9	726.8	727.6	728.3	729.0	729.6	730.3	730.8
137.5°	758.3	759.5	760.7	762.0	763.2	764.0	764.4	764.8	765.1	765.4	766.3
140°	781.8	782.8	783.8	784.8	785.8	786.5	787.0	787.5	788.0	788.4	789.1
142.5°	803.6	804.6	805.6	806.6	807.6	808.3	808.8	809.3	809.7	810.3	810.8
145°	834.2	835.3	836.4	837.5	838.8	839.4	839.8	840.1	840.5	840.7	841.1
147.5°	862.9	863.7	864.4	865.2	865.9	866.5	866.8	867.0	867.4	867.7	868.1
150°	880.5	881.1	881.6	882.0	882.5	883.0	883.3	883.6	883.9	884.3	884.6
152.5°	896.5	896.7	896.9	897.2	897.4	897.6	897.8	898.0	898.2	898.4	899.0
155°	918.9	918.6	918.2	917.9	917.6	917.5	917.7	917.8	917.9	918.1	919.0
157.5°	936.2	936.2	936.2	936.1	936.1	936.0	935.9	935.8	935.6	935.4	936.4
160°	946.9	946.7	946.6	946.4	946.2	946.0	945.9	945.7	945.6	945.4	946.4
162.5°	956.9	956.5	956.0	955.6	955.2	954.9	954.7	954.6	954.4	954.2	955.4
165°	969.0	968.5	968.0	967.5	967.0	966.7	966.6	966.4	966.2	966.0	967.3
167.5°	978.5	977.8	977.1	976.5	975.8	975.4	975.4	975.4	975.4	975.4	976.8
170°	983.7	983.1	982.4	981.8	981.1	980.8	980.8	980.8	980.8	980.8	982.1
172.5°	987.2	986.5	985.7	984.9	984.1	983.8	983.9	984.0	984.2	984.3	985.6
175°	991.8	991.0	990.2	989.4	988.5	988.3	988.4	988.5	988.7	988.9	990.0
177.5°	993.0	992.4	991.7	991.1	990.4	990.1	990.2	990.4	990.5	990.6	991.7
180°	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	508.8	509.6	510.4	510.8	510.7	510.6	510.5	510.4
5°	506.1	507.1	508.1	508.5	508.3	508.1	507.8	507.7
7.5°	500.8	501.6	502.5	502.8	502.8	502.7	502.6	502.4
10°	495.9	496.7	497.6	497.9	497.8	497.6	497.4	497.2
12.5°	490.4	491.1	491.7	492.0	491.9	491.7	491.6	491.5
15°	480.7	481.5	482.3	482.4	481.7	481.2	480.6	480.0
17.5°	468.3	468.9	469.5	469.7	469.4	469.2	469.0	468.8
20°	459.3	459.7	460.1	460.1	459.8	459.5	459.2	458.9
22.5°	449.6	450.0	450.3	450.3	449.9	449.5	449.1	448.7
25°	433.7	433.8	433.9	433.8	433.5	433.2	432.9	432.6
27.5°	416.7	416.8	416.8	416.7	416.3	415.9	415.6	415.2
30°	404.9	404.9	404.9	404.5	403.9	403.2	402.6	401.8
32.5°	392.6	392.0	391.5	391.1	390.7	390.3	389.9	389.6
35°	372.6	372.0	371.4	370.9	370.4	369.9	369.4	368.9
37.5°	351.9	351.2	350.4	350.0	349.7	349.3	349.0	348.7
40°	338.4	337.6	336.8	336.2	335.8	335.5	335.1	334.7
42.5°	324.3	323.5	322.7	322.2	321.8	321.4	321.0	320.6
45°	303.3	302.2	301.0	300.2	299.6	299.2	298.7	298.2
47.5°	281.3	280.1	278.9	278.1	277.7	277.3	276.8	276.4
50°	266.6	265.5	264.5	263.6	263.1	262.5	261.9	261.3
52.5°	251.8	250.9	250.0	249.2	248.6	248.1	247.5	246.9
55°	229.3	228.2	227.2	226.4	225.9	225.4	224.9	224.4
57.5°	207.2	206.1	205.2	204.4	203.9	203.3	202.7	202.2
60°	191.5	190.6	189.7	189.1	188.5	188.0	187.6	187.1
62.5°	176.3	175.5	174.7	174.0	173.7	173.3	173.1	172.7
65°	153.9	153.2	152.3	151.8	151.6	151.2	150.9	150.6
67.5°	131.6	130.9	130.3	129.7	129.3	128.8	128.5	128.1
70°	117.3	116.5	115.8	115.3	114.8	114.3	113.8	113.3
72.5°	102.6	102.0	101.4	100.9	100.8	100.5	100.2	99.9
75°	81.6	81.1	80.6	80.2	79.9	79.6	79.4	79.1
77.5°	61.9	61.6	61.3	61.2	61.2	61.2	61.2	61.2
80°	49.4	49.3	49.2	49.2	49.2	49.2	49.2	49.2
82.5°	38.1	37.9	37.7	37.5	37.5	37.4	37.3	37.2
85°	21.6	21.4	21.2	21.1	21.1	21.1	21.1	21.1
87.5°	11.4	11.4	11.5	11.5	11.6	11.7	11.7	11.8
90°	19.0	19.6	20.3	20.8	21.1	21.5	21.8	22.1
92.5°	20.9	22.0	23.1	23.7	23.8	24.0	24.2	24.5
95°	25.2	26.3	27.4	28.0	28.0	28.0	28.0	28.0
97.5°	26.4	27.6	28.9	29.7	29.9	30.1	30.2	30.3
100°	27.0	28.3	29.6	30.3	30.4	30.6	30.8	30.9
102.5°	40.3	36.3	32.2	30.3	30.6	30.9	31.2	31.6
105°	103.4	74.5	45.4	31.1	31.5	31.8	32.1	32.4
107.5°	253.3	232.1	210.8	189.2	167.4	145.5	123.7	101.8
110°	321.5	316.1	310.8	296.3	272.9	249.5	226.0	202.6





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CATALOG NUMBER: S123DIP-S340D805U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	369.7	369.8	369.9	367.4	362.5	357.5	352.6	347.7
115°	426.2	427.9	429.5	430.6	431.3	432.0	432.6	433.3
117.5°	477.5	478.8	480.0	480.8	481.0	481.1	481.2	481.4
120°	511.0	512.4	513.7	514.3	514.3	514.3	514.3	514.3
122.5°	543.8	544.8	545.7	546.2	546.4	546.5	546.7	546.8
125°	590.1	590.5	590.8	591.2	591.4	591.8	592.1	592.5
127.5°	636.5	637.1	637.5	637.6	637.3	637.1	636.7	636.4
130°	664.5	665.2	665.8	666.0	665.6	665.3	665.0	664.7
132.5°	691.0	691.6	692.3	692.4	692.0	691.5	691.1	690.6
135°	731.2	731.7	732.2	732.2	731.7	731.2	730.8	730.3
137.5°	767.0	767.8	768.6	768.8	768.5	768.2	767.9	767.5
140°	789.8	790.4	791.1	791.3	790.9	790.6	790.2	789.9
142.5°	811.3	811.8	812.4	812.4	811.9	811.4	811.1	810.6
145°	841.4	841.8	842.1	842.3	842.3	842.3	842.3	842.3
147.5°	868.4	868.7	869.0	868.8	868.1	867.3	866.6	865.8
150°	884.9	885.2	885.5	885.5	885.0	884.5	884.0	883.5
152.5°	899.6	900.1	900.8	900.7	899.9	899.2	898.4	897.7
155°	919.8	920.6	921.4	921.3	920.4	919.4	918.4	917.4
157.5°	937.4	938.3	939.3	939.1	937.9	936.6	935.4	934.1
160°	947.3	948.4	949.3	949.2	948.1	947.0	945.8	944.7
162.5°	956.5	957.6	958.7	958.8	957.7	956.7	955.7	954.7
165°	968.7	970.0	971.3	971.4	970.3	969.0	967.9	966.8
167.5°	978.1	979.4	980.7	980.7	979.4	978.1	976.8	975.4
170°	983.4	984.7	986.0	986.0	984.7	983.4	982.1	980.8
172.5°	986.9	988.3	989.6	989.5	988.1	986.7	985.1	983.7
175°	991.2	992.3	993.4	993.3	992.1	990.8	989.5	988.2
177.5°	992.8	993.8	994.9	994.8	993.4	992.1	990.8	989.5
180°	991.8	991.8	991.8	991.8	991.8	991.8	991.8	991.8

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