

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: P331895-840

Luminaire Tested: **S123DIP-S340D1025U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331895-840  
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-S340D1025U840-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5592.8 lumens  
Efficiency: N/A  
Efficacy: 149.9 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

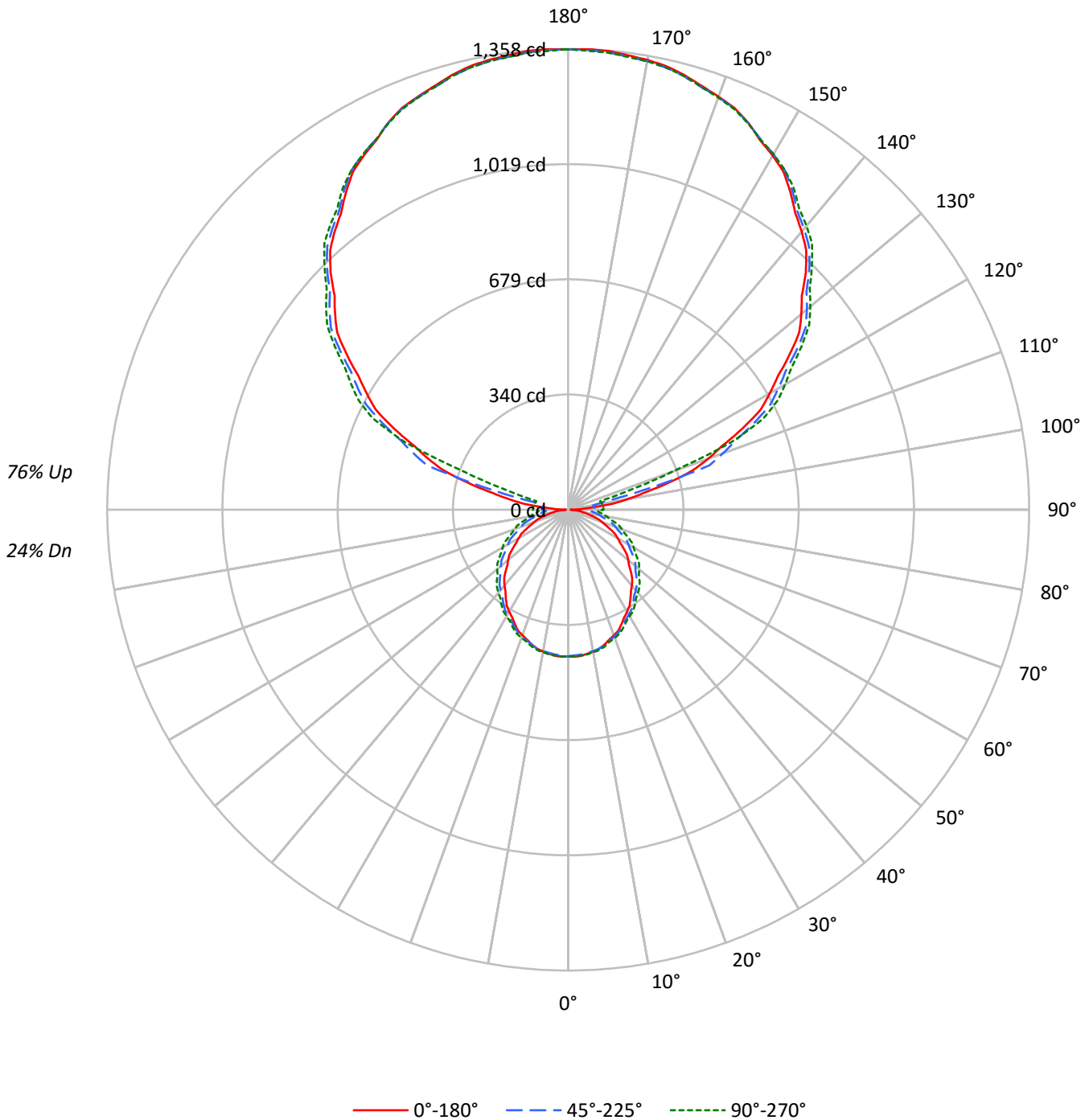
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIP-S340D1025U840-4F0-1E-UDD-D

**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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	64	73	67	62	58	52	48	45	37	35	33	24	23	21	16
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	24	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	42	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	14	13	11	9	6
9	46	34	27	22	41	31	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

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

	0°	45°	90°
0°	4649	4649	4649
5°	4664	4533	4534
10°	4622	4428	4406
15°	4562	4309	4265
20°	4477	4174	4110
25°	4372	4019	3947
30°	4265	3879	3780
35°	4143	3731	3649
40°	4030	3595	3508
45°	3902	3466	3395
50°	3776	3338	3272
55°	3636	3207	3158
60°	3499	3074	3045
65°	3360	2931	2907
70°	3149	2772	2766
75°	2886	2590	2626
80°	2583	2410	2462
85°	2294	2286	2367



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.9	0.7
10°-20°	116.7	2.1
20°-30°	174.6	3.1
30°-40°	208.5	3.7
40°-50°	218.1	3.9
50°-60°	204.7	3.7
60°-70°	171.0	3.1
70°-80°	122.3	2.2
80°-90°	76.7	1.4
90°-100°	95.1	1.7
100°-110°	268.7	4.8
110°-120°	587.2	10.5
120°-130°	731.9	13.1
130°-140°	774.1	13.8
140°-150°	719.7	12.9
150°-160°	579.6	10.4
160°-170°	374.0	6.7
170°-180°	128.9	2.3
0°-30°	332.3	5.9
0°-40°	540.8	9.7
0°-60°	963.6	17.2
0°-90°	1333.7	23.8
90°-120°	951.0	17.0
90°-150°	3176.7	56.8
90°-180°	4259.0	76.2
0°-180°	5592.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	431	429	432	432	41
15°	412	413	413	417	417	116
25°	372	376	378	384	384	171
35°	320	327	334	340	342	200
45°	262	273	285	293	297	202
55°	200	215	232	244	248	179
65°	138	156	177	191	196	136
75°	75	97	120	135	142	80
85°	23	47	72	87	92	24
90°	7	40	77	97	104	7
95°	67	47	78	98	104	80
105°	304	321	256	100	97	322
115°	566	578	604	624	633	558
125°	796	804	821	833	839	711
135°	990	996	1005	1015	1015	762
145°	1142	1148	1150	1156	1158	714
155°	1257	1255	1256	1260	1255	579
165°	1326	1323	1322	1329	1322	374
175°	1357	1352	1353	1359	1352	129
180°	1357	1357	1357	1357	1357	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	433.8	433.6	433.3	433.1	432.8	432.4	431.7	431.0	430.4	429.7	430.4
5°	432.4	432.2	432.0	431.8	431.6	431.2	430.5	429.9	429.3	428.7	429.5
7.5°	428.2	428.3	428.3	428.3	428.4	428.1	427.5	426.9	426.3	425.7	426.7
10°	424.4	424.6	424.9	425.1	425.3	425.2	424.5	424.0	423.5	423.0	424.0
12.5°	419.9	420.2	420.5	420.8	421.1	421.0	420.7	420.3	420.0	419.6	420.6
15°	411.7	412.0	412.3	412.6	412.9	413.1	412.9	412.8	412.7	412.6	413.7
17.5°	401.4	402.0	402.6	403.2	403.8	404.1	404.1	404.0	404.0	404.0	405.0
20°	393.8	394.5	395.1	395.8	396.4	396.8	397.0	397.2	397.4	397.6	398.6
22.5°	386.0	386.6	387.2	387.8	388.5	388.9	389.2	389.5	389.8	390.1	391.3
25°	371.7	372.7	373.9	374.9	375.9	376.6	376.9	377.2	377.5	377.9	379.2
27.5°	357.4	358.6	359.8	361.0	362.2	363.1	363.8	364.5	365.2	365.8	367.0
30°	347.3	348.6	350.0	351.3	352.7	353.8	354.7	355.5	356.3	357.2	358.4
32.5°	336.0	337.5	339.0	340.5	342.0	343.4	344.5	345.6	346.7	347.7	349.1
35°	319.9	321.6	323.4	325.0	326.7	328.2	329.5	330.9	332.2	333.7	335.2
37.5°	303.1	304.9	306.8	308.7	310.5	312.4	314.0	315.7	317.4	319.0	320.8
40°	291.8	293.7	295.5	297.4	299.2	301.2	303.4	305.5	307.5	309.6	311.4
42.5°	279.3	281.7	283.9	286.2	288.5	290.7	293.0	295.1	297.3	299.4	301.4
45°	261.7	264.2	266.6	269.1	271.7	274.2	276.8	279.4	282.1	284.7	286.7
47.5°	243.1	245.9	248.7	251.7	254.5	257.4	260.3	263.4	266.3	269.3	271.6
50°	231.1	234.0	236.9	239.8	242.8	245.8	249.0	252.4	255.6	258.8	261.3
52.5°	218.2	221.4	224.4	227.5	230.7	234.0	237.5	241.2	244.7	248.2	250.7
55°	199.5	203.0	206.4	209.8	213.3	216.9	220.7	224.5	228.2	232.0	234.8
57.5°	181.3	184.8	188.4	192.1	195.6	199.5	203.6	207.7	211.9	216.0	218.8
60°	168.4	172.2	176.0	179.8	183.5	187.5	191.9	196.1	200.4	204.7	207.6
62.5°	156.4	160.3	164.1	167.9	171.8	176.0	180.6	185.1	189.7	194.2	197.0
65°	137.8	142.0	146.0	150.1	154.2	158.5	163.1	167.7	172.3	176.9	180.1
67.5°	119.1	123.4	127.7	132.0	136.3	140.9	145.5	150.3	154.9	159.7	163.0
70°	105.8	110.4	114.8	119.4	123.8	128.7	133.6	138.7	143.7	148.7	152.1
72.5°	93.8	98.4	102.8	107.3	111.8	116.6	121.8	127.0	132.2	137.4	140.9
75°	74.8	79.8	84.6	89.6	94.5	99.6	104.8	110.0	115.2	120.5	123.9
77.5°	58.3	63.2	68.2	73.1	78.1	83.2	88.5	93.7	99.0	104.3	108.0
80°	46.6	51.7	56.9	62.0	67.1	72.4	77.8	83.2	88.7	94.1	97.7
82.5°	36.5	41.6	46.9	52.0	57.3	62.6	68.2	73.6	79.2	84.7	88.3
85°	23.0	28.3	33.5	38.8	43.9	49.4	54.9	60.4	65.9	71.5	75.0
87.5°	12.7	18.4	24.0	29.7	35.3	41.1	47.1	52.9	58.9	64.8	68.6
90°	7.2	14.4	21.8	29.2	36.6	44.4	52.6	60.9	69.1	77.4	81.8
92.5°	24.5	28.5	32.5	36.5	40.5	46.2	53.6	61.1	68.6	75.9	80.9
95°	66.7	61.6	56.5	51.3	46.3	47.5	55.0	62.6	70.3	77.9	82.6
97.5°	128.2	127.7	127.3	126.8	126.4	120.6	109.4	98.2	86.8	75.6	80.6
100°	174.6	182.4	190.3	198.0	205.9	194.7	164.6	134.5	104.3	74.2	79.1
102.5°	227.4	233.7	239.9	246.1	252.4	238.7	205.3	171.9	138.5	105.0	102.4
105°	304.2	309.1	314.1	319.1	324.1	318.7	303.1	287.4	271.8	256.0	219.3
107.5°	384.7	388.7	392.8	397.0	401.0	406.8	414.2	421.7	429.2	436.6	410.3
110°	438.3	441.9	445.7	449.3	452.9	458.2	464.7	471.4	478.1	484.7	480.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	489.9	493.0	496.2	499.4	502.5	507.4	513.8	520.3	526.7	533.3	536.0
115°	565.8	568.5	571.0	573.6	576.2	580.4	586.2	592.0	597.7	603.5	608.2
117.5°	639.7	642.2	644.6	647.0	649.4	653.0	657.5	662.1	666.6	671.2	675.5
120°	685.3	687.8	690.3	692.9	695.5	698.8	702.9	707.0	711.1	715.3	719.4
122.5°	732.1	734.0	735.9	737.9	739.8	742.9	747.0	751.1	755.2	759.3	763.0
125°	795.7	797.5	799.3	801.1	802.8	805.8	809.7	813.5	817.5	821.4	824.0
127.5°	857.8	859.5	861.2	862.8	864.5	867.2	870.8	874.3	878.0	881.5	884.3
130°	896.6	898.2	899.9	901.6	903.2	905.6	908.6	911.6	914.5	917.6	920.4
132.5°	933.2	935.0	936.8	938.6	940.3	942.4	944.8	947.2	949.6	952.0	954.7
135°	989.8	991.0	992.3	993.5	994.7	996.3	998.5	1000.5	1002.5	1004.6	1007.1
137.5°	1038.0	1039.7	1041.3	1042.9	1044.5	1045.9	1047.0	1048.2	1049.4	1050.5	1053.2
140°	1070.0	1071.3	1072.7	1074.0	1075.3	1076.5	1077.5	1078.4	1079.4	1080.5	1082.9
142.5°	1099.7	1101.1	1102.3	1103.6	1104.8	1105.8	1106.6	1107.3	1108.0	1108.7	1110.9
145°	1141.6	1143.0	1144.5	1145.9	1147.4	1148.3	1148.8	1149.2	1149.6	1150.1	1151.4
147.5°	1180.3	1181.4	1182.5	1183.5	1184.5	1185.2	1185.7	1186.1	1186.6	1187.0	1187.7
150°	1204.6	1205.3	1205.9	1206.6	1207.2	1207.8	1208.2	1208.7	1209.1	1209.6	1210.0
152.5°	1226.3	1226.7	1227.0	1227.3	1227.6	1227.9	1228.1	1228.4	1228.7	1228.9	1229.7
155°	1257.0	1256.5	1256.1	1255.7	1255.2	1255.1	1255.3	1255.5	1255.8	1256.0	1257.1
157.5°	1280.7	1280.7	1280.7	1280.6	1280.6	1280.4	1280.2	1280.0	1279.8	1279.5	1280.9
160°	1295.3	1295.1	1294.8	1294.6	1294.3	1294.1	1293.9	1293.7	1293.4	1293.2	1294.6
162.5°	1309.0	1308.4	1307.8	1307.3	1306.7	1306.3	1306.1	1305.8	1305.6	1305.4	1306.9
165°	1325.5	1324.8	1324.1	1323.5	1322.8	1322.4	1322.1	1321.9	1321.7	1321.5	1323.2
167.5°	1338.4	1337.6	1336.7	1335.7	1334.8	1334.3	1334.3	1334.3	1334.3	1334.3	1336.2
170°	1345.6	1344.7	1343.9	1343.0	1342.1	1341.6	1341.6	1341.6	1341.6	1341.6	1343.4
172.5°	1350.5	1349.5	1348.4	1347.3	1346.3	1345.7	1345.9	1346.2	1346.3	1346.5	1348.3
175°	1356.8	1355.6	1354.5	1353.4	1352.3	1351.8	1352.0	1352.3	1352.5	1352.7	1354.3
177.5°	1358.4	1357.5	1356.6	1355.6	1354.8	1354.4	1354.6	1354.8	1354.9	1355.1	1356.6
180°	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	431.0	431.7	432.4	432.6	432.6	432.5	432.4	432.3
5°	430.3	431.2	432.0	432.4	432.3	432.1	432.0	431.9
7.5°	427.8	428.8	429.8	430.3	430.2	430.0	429.9	429.8
10°	425.2	426.2	427.2	427.6	427.4	427.2	427.0	426.8
12.5°	421.5	422.5	423.4	423.8	423.6	423.4	423.2	423.0
15°	414.8	415.8	416.9	417.3	417.2	417.1	417.0	416.9
17.5°	405.9	406.9	407.8	408.2	408.0	407.9	407.8	407.6
20°	399.5	400.4	401.4	401.9	402.0	402.1	402.2	402.3
22.5°	392.4	393.6	394.9	395.5	395.4	395.3	395.3	395.2
25°	380.5	381.9	383.2	384.0	384.0	384.0	384.0	384.0
27.5°	368.1	369.3	370.5	371.1	371.2	371.3	371.3	371.4
30°	359.6	360.9	362.1	362.7	362.7	362.7	362.7	362.7
32.5°	350.4	351.7	353.0	353.9	354.2	354.4	354.7	354.9
35°	336.8	338.3	339.9	340.9	341.3	341.7	342.1	342.5
37.5°	322.6	324.4	326.2	327.2	327.5	327.9	328.2	328.5
40°	313.2	315.0	316.7	317.8	318.2	318.7	319.1	319.5
42.5°	303.4	305.3	307.2	308.5	309.1	309.6	310.2	310.8
45°	288.6	290.6	292.7	294.1	294.9	295.7	296.6	297.4
47.5°	273.8	276.1	278.3	279.7	280.3	281.0	281.7	282.4
50°	263.6	266.0	268.4	270.0	270.7	271.5	272.2	273.0
52.5°	253.3	255.7	258.2	259.9	260.8	261.8	262.6	263.5
55°	237.6	240.4	243.3	245.1	245.9	246.8	247.6	248.4
57.5°	221.7	224.5	227.3	229.2	230.2	231.3	232.3	233.2
60°	210.6	213.5	216.4	218.4	219.5	220.8	221.9	223.1
62.5°	200.0	202.9	205.8	207.8	208.9	210.0	211.1	212.2
65°	183.2	186.3	189.5	191.6	192.6	193.7	194.7	195.7
67.5°	166.4	169.9	173.3	175.5	176.3	177.2	178.1	178.9
70°	155.4	158.8	162.1	164.3	165.3	166.3	167.4	168.4
72.5°	144.2	147.6	151.1	153.4	154.4	155.4	156.5	157.5
75°	127.3	130.8	134.3	136.6	137.8	139.2	140.4	141.7
77.5°	111.6	115.2	118.9	121.1	122.1	123.1	124.0	125.0
80°	101.2	104.8	108.4	110.6	111.7	112.7	113.8	114.8
82.5°	91.8	95.3	99.0	101.2	102.3	103.3	104.3	105.4
85°	78.7	82.2	85.7	88.1	89.1	90.2	91.2	92.2
87.5°	72.2	75.9	79.7	82.2	83.3	84.4	85.5	86.7
90°	86.2	90.7	95.1	98.2	99.7	101.1	102.6	104.1
92.5°	85.7	90.7	95.6	98.7	99.9	101.1	102.3	103.6
95°	87.5	92.3	97.0	100.0	101.1	102.1	103.1	104.2
97.5°	85.4	90.4	95.3	98.4	99.7	100.9	102.2	103.4
100°	83.8	88.7	93.5	96.5	97.9	99.1	100.4	101.6
102.5°	99.8	97.1	94.6	94.0	95.4	96.9	98.4	99.8
105°	182.6	145.9	109.2	91.5	92.9	94.3	95.6	97.0
107.5°	384.1	357.8	331.5	303.9	275.0	246.0	217.0	188.0
110°	475.3	470.7	466.1	448.1	416.9	385.7	354.5	323.4





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CATALOG NUMBER: S123DIP-S340D1025U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	538.8	541.6	544.3	542.8	536.9	531.1	525.2	519.5
115°	613.0	617.7	622.5	625.8	627.5	629.2	631.0	632.7
117.5°	679.7	684.1	688.3	690.9	692.0	693.0	694.0	694.9
120°	723.7	727.9	732.1	734.6	735.3	736.0	736.7	737.5
122.5°	766.5	770.1	773.7	775.9	776.8	777.7	778.6	779.5
125°	826.8	829.4	832.0	833.9	835.2	836.3	837.5	838.7
127.5°	887.1	889.9	892.7	894.2	894.4	894.7	894.9	895.2
130°	923.3	926.1	929.1	930.6	930.8	931.0	931.2	931.3
132.5°	957.6	960.4	963.1	964.6	964.6	964.7	964.8	964.9
135°	1009.7	1012.2	1014.8	1016.0	1015.8	1015.7	1015.5	1015.4
137.5°	1055.9	1058.6	1061.4	1062.8	1062.9	1063.0	1063.0	1063.1
140°	1085.4	1087.8	1090.3	1091.6	1091.7	1091.7	1091.8	1091.9
142.5°	1113.0	1115.1	1117.2	1118.2	1118.1	1118.0	1117.9	1117.8
145°	1152.7	1154.0	1155.3	1156.1	1156.5	1156.9	1157.4	1157.8
147.5°	1188.4	1189.1	1189.8	1189.8	1189.2	1188.5	1187.9	1187.2
150°	1210.5	1210.9	1211.4	1211.3	1210.9	1210.4	1210.0	1209.5
152.5°	1230.5	1231.3	1232.1	1232.0	1231.1	1230.1	1229.1	1228.1
155°	1258.2	1259.3	1260.4	1260.3	1259.0	1257.7	1256.3	1255.0
157.5°	1282.2	1283.5	1285.0	1284.8	1282.9	1281.2	1279.5	1277.8
160°	1296.0	1297.3	1298.6	1298.5	1297.0	1295.4	1293.8	1292.2
162.5°	1308.4	1309.9	1311.4	1311.5	1310.1	1308.7	1307.4	1306.0
165°	1325.0	1326.9	1328.7	1328.8	1327.2	1325.6	1324.0	1322.5
167.5°	1338.0	1339.8	1341.5	1341.5	1339.8	1338.0	1336.2	1334.3
170°	1345.2	1347.1	1348.8	1348.8	1347.1	1345.2	1343.4	1341.6
172.5°	1350.1	1351.8	1353.6	1353.5	1351.6	1349.6	1347.7	1345.6
175°	1355.8	1357.5	1359.0	1358.9	1357.1	1355.3	1353.5	1351.7
177.5°	1358.0	1359.5	1360.9	1360.7	1358.9	1357.2	1355.3	1353.5
180°	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8	1356.8

(END OF REPORT)