

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: P331895-830

Luminaire Tested: **S123DIP-S340D1025U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331895-830  
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-S340D1025U830-4F0-1E-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: 5220.0 lumens  
Efficiency: N/A  
Efficacy: 139.9 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

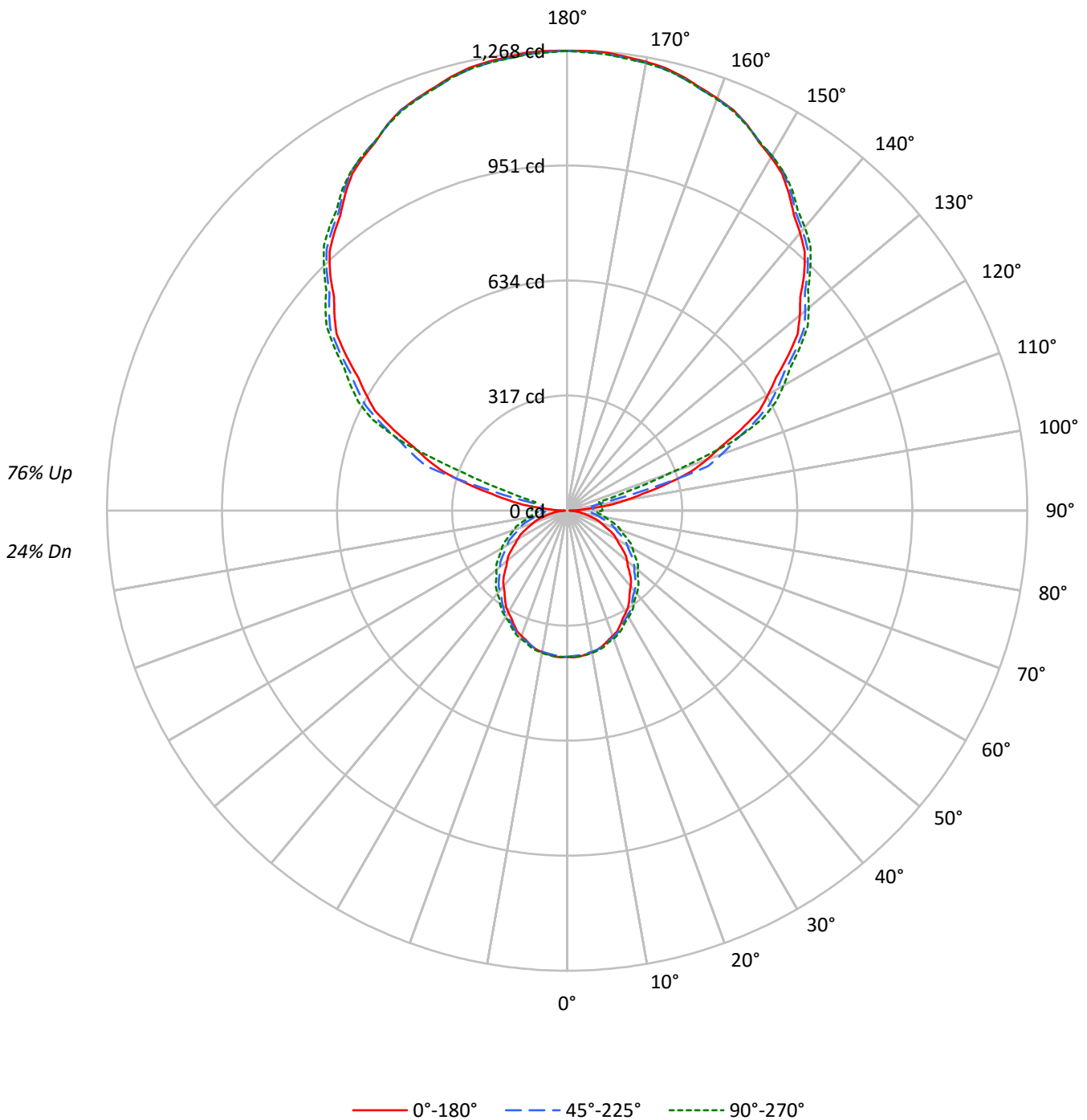
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331895-830

CATALOG NUMBER: S123DIP-S340D1025U830-4F0-1E-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°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.2	0.7
10°-20°	108.9	2.1
20°-30°	163.0	3.1
30°-40°	194.6	3.7
40°-50°	203.6	3.9
50°-60°	191.1	3.7
60°-70°	159.6	3.1
70°-80°	114.2	2.2
80°-90°	71.6	1.4
90°-100°	88.8	1.7
100°-110°	250.8	4.8
110°-120°	548.0	10.5
120°-130°	683.1	13.1
130°-140°	722.5	13.8
140°-150°	671.7	12.9
150°-160°	540.9	10.4
160°-170°	349.1	6.7
170°-180°	120.3	2.3
0°-30°	310.1	5.9
0°-40°	504.7	9.7
0°-60°	899.4	17.2
0°-90°	1244.8	23.8
90°-120°	887.6	17.0
90°-150°	2964.9	56.8
90°-180°	3975.0	76.1
0°-180°	5220.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	7	38	72	90	97	7
95°	62	44	73	92	97	75
105°	284	300	239	94	91	301
115°	528	540	563	583	590	521
125°	743	751	767	778	783	663
135°	924	929	938	948	948	711
145°	1066	1071	1074	1079	1081	667
155°	1173	1171	1172	1176	1171	540
165°	1237	1234	1233	1240	1234	349
175°	1266	1262	1262	1268	1262	120
180°	1266	1266	1266	1266	1266	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.9	17.2	22.4	27.7	33.0	38.4	43.9	49.4	55.0	60.5	64.0
90°	6.7	13.5	20.4	27.2	34.1	41.5	49.1	56.8	64.5	72.2	76.3
92.5°	22.9	26.6	30.3	34.0	37.8	43.1	50.0	57.0	64.0	70.9	75.5
95°	62.2	57.5	52.7	47.9	43.2	44.3	51.4	58.4	65.6	72.7	77.1
97.5°	119.6	119.2	118.9	118.4	118.0	112.5	102.1	91.6	81.1	70.6	75.2
100°	163.0	170.2	177.6	184.8	192.2	181.7	153.6	125.5	97.4	69.3	73.8
102.5°	212.3	218.1	223.9	229.7	235.5	222.8	191.6	160.4	129.2	98.0	95.6
105°	283.9	288.5	293.1	297.8	302.5	297.5	282.9	268.2	253.6	238.9	204.7
107.5°	359.0	362.8	366.6	370.5	374.3	379.7	386.6	393.6	400.6	407.5	383.0
110°	409.1	412.5	415.9	419.3	422.7	427.6	433.8	440.0	446.2	452.4	448.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	457.2	460.1	463.2	466.1	469.0	473.5	479.6	485.6	491.6	497.8	500.3
115°	528.1	530.6	532.9	535.4	537.8	541.7	547.1	552.5	557.9	563.3	567.7
117.5°	597.1	599.4	601.6	603.9	606.1	609.4	613.7	617.9	622.2	626.4	630.5
120°	639.6	642.0	644.3	646.7	649.1	652.2	656.0	659.9	663.7	667.6	671.5
122.5°	683.2	685.0	686.8	688.7	690.5	693.3	697.2	701.1	704.8	708.7	712.1
125°	742.6	744.3	746.0	747.7	749.3	752.1	755.7	759.3	763.0	766.7	769.1
127.5°	800.6	802.2	803.8	805.3	806.9	809.4	812.8	816.1	819.4	822.7	825.4
130°	836.8	838.3	839.9	841.5	843.0	845.3	848.0	850.8	853.6	856.4	859.0
132.5°	871.0	872.7	874.3	876.0	877.6	879.6	881.8	884.0	886.3	888.5	891.1
135°	923.8	924.9	926.1	927.3	928.4	929.9	931.9	933.8	935.7	937.6	940.0
137.5°	968.8	970.3	971.9	973.4	974.9	976.2	977.2	978.4	979.4	980.4	983.0
140°	998.6	999.8	1001.2	1002.4	1003.6	1004.8	1005.7	1006.5	1007.5	1008.4	1010.7
142.5°	1026.4	1027.7	1028.8	1030.0	1031.1	1032.1	1032.8	1033.5	1034.2	1034.8	1036.8
145°	1065.5	1066.8	1068.2	1069.5	1070.9	1071.8	1072.2	1072.6	1073.0	1073.5	1074.7
147.5°	1101.6	1102.7	1103.6	1104.6	1105.5	1106.2	1106.6	1107.0	1107.5	1107.9	1108.5
150°	1124.3	1124.9	1125.5	1126.1	1126.7	1127.3	1127.7	1128.1	1128.5	1129.0	1129.4
152.5°	1144.5	1144.9	1145.2	1145.5	1145.8	1146.0	1146.2	1146.5	1146.8	1147.0	1147.7
155°	1173.2	1172.7	1172.3	1172.0	1171.5	1171.4	1171.6	1171.8	1172.1	1172.2	1173.3
157.5°	1195.3	1195.3	1195.3	1195.2	1195.2	1195.0	1194.9	1194.7	1194.5	1194.2	1195.5
160°	1208.9	1208.7	1208.5	1208.3	1208.1	1207.9	1207.7	1207.5	1207.2	1207.0	1208.3
162.5°	1221.7	1221.2	1220.6	1220.1	1219.6	1219.2	1219.0	1218.7	1218.5	1218.3	1219.7
165°	1237.2	1236.5	1235.9	1235.3	1234.6	1234.3	1234.0	1233.8	1233.6	1233.4	1235.0
167.5°	1249.2	1248.4	1247.5	1246.7	1245.9	1245.4	1245.4	1245.4	1245.4	1245.4	1247.1
170°	1255.9	1255.1	1254.3	1253.5	1252.6	1252.2	1252.2	1252.2	1252.2	1252.2	1253.9
172.5°	1260.5	1259.5	1258.5	1257.4	1256.5	1256.0	1256.2	1256.4	1256.5	1256.7	1258.4
175°	1266.3	1265.3	1264.2	1263.2	1262.2	1261.7	1261.9	1262.2	1262.3	1262.5	1264.0
177.5°	1267.8	1267.0	1266.1	1265.3	1264.5	1264.1	1264.3	1264.5	1264.6	1264.8	1266.1
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	67.4	70.9	74.4	76.7	77.8	78.8	79.8	81.0
90°	80.5	84.6	88.8	91.6	93.0	94.3	95.8	97.2
92.5°	80.0	84.6	89.3	92.1	93.2	94.3	95.5	96.7
95°	81.6	86.1	90.6	93.3	94.3	95.3	96.2	97.3
97.5°	79.7	84.4	89.0	91.8	93.0	94.2	95.4	96.5
100°	78.2	82.8	87.3	90.1	91.3	92.5	93.7	94.8
102.5°	93.1	90.7	88.3	87.8	89.1	90.5	91.8	93.1
105°	170.4	136.2	101.9	85.4	86.7	88.0	89.3	90.6
107.5°	358.4	333.9	309.4	283.6	256.7	229.6	202.6	175.5
110°	443.7	439.3	435.0	418.2	389.1	360.0	330.8	301.8





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CATALOG NUMBER: S123DIP-S340D1025U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	502.8	505.5	508.0	506.6	501.1	495.7	490.2	484.8
115°	572.1	576.6	581.0	584.1	585.7	587.3	588.9	590.5
117.5°	634.4	638.5	642.4	644.9	645.8	646.8	647.7	648.6
120°	675.4	679.4	683.2	685.6	686.3	686.9	687.6	688.3
122.5°	715.4	718.8	722.1	724.2	725.0	725.9	726.7	727.5
125°	771.7	774.1	776.6	778.4	779.5	780.5	781.7	782.8
127.5°	827.9	830.6	833.2	834.6	834.8	835.1	835.3	835.6
130°	861.8	864.4	867.1	868.6	868.7	868.9	869.1	869.2
132.5°	893.7	896.4	898.9	900.3	900.3	900.4	900.5	900.6
135°	942.4	944.7	947.2	948.3	948.1	948.0	947.8	947.7
137.5°	985.5	988.1	990.6	991.9	992.0	992.1	992.1	992.2
140°	1013.0	1015.3	1017.6	1018.8	1018.9	1018.9	1019.0	1019.1
142.5°	1038.8	1040.8	1042.7	1043.7	1043.6	1043.5	1043.4	1043.3
145°	1075.8	1077.0	1078.3	1079.0	1079.4	1079.8	1080.2	1080.6
147.5°	1109.2	1109.8	1110.5	1110.5	1109.9	1109.3	1108.7	1108.1
150°	1129.8	1130.2	1130.7	1130.6	1130.2	1129.7	1129.4	1128.9
152.5°	1148.5	1149.2	1150.0	1149.9	1149.1	1148.1	1147.2	1146.2
155°	1174.3	1175.4	1176.4	1176.3	1175.1	1173.8	1172.5	1171.3
157.5°	1196.7	1198.0	1199.3	1199.1	1197.4	1195.8	1194.2	1192.6
160°	1209.6	1210.8	1212.0	1211.9	1210.5	1209.0	1207.6	1206.1
162.5°	1221.2	1222.6	1224.0	1224.1	1222.8	1221.4	1220.2	1218.9
165°	1236.7	1238.4	1240.1	1240.2	1238.7	1237.3	1235.8	1234.4
167.5°	1248.8	1250.5	1252.1	1252.1	1250.5	1248.8	1247.1	1245.4
170°	1255.6	1257.3	1258.9	1258.9	1257.3	1255.6	1253.9	1252.2
172.5°	1260.1	1261.7	1263.4	1263.3	1261.5	1259.6	1257.8	1255.9
175°	1265.5	1267.0	1268.4	1268.3	1266.6	1265.0	1263.3	1261.6
177.5°	1267.4	1268.9	1270.2	1270.0	1268.3	1266.7	1265.0	1263.3
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3

(END OF REPORT)