

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: P331904-830

Luminaire Tested: **S123DIP-S340D1195U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331904-830  
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-S340D1195U830-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5853.8 lumens  
Efficiency: N/A  
Efficacy: 138.7 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

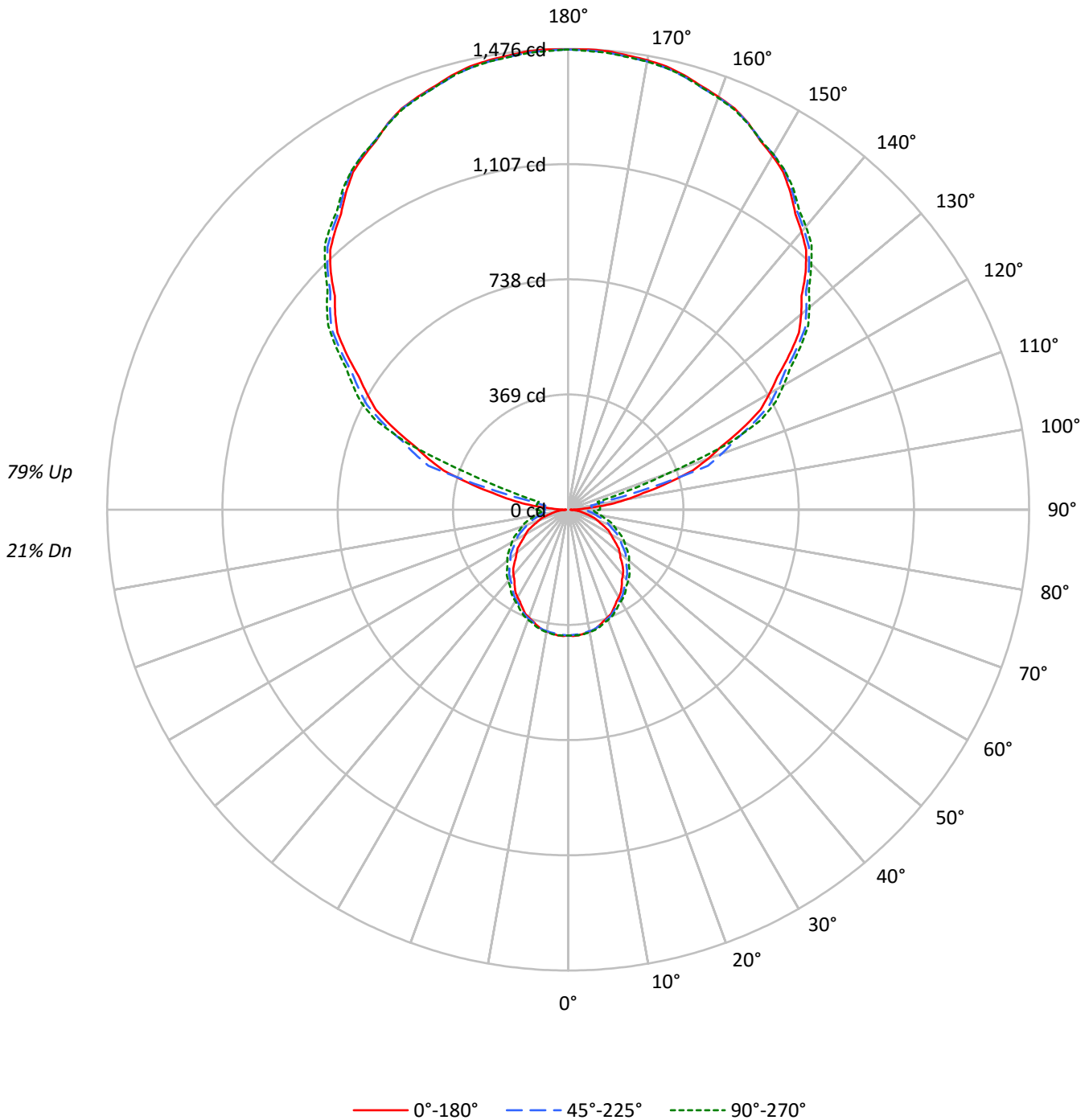
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331904-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-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	100	100	100	100	89	89	89	89	67	67	67	48	48	48	30	30	30	21
1	91	87	83	79	80	77	73	71	58	56	54	41	40	39	25	25	24	17
2	83	75	69	64	73	67	62	57	51	47	44	36	34	32	22	21	20	14
3	75	66	59	53	66	58	52	48	44	40	37	31	29	27	19	18	17	12
4	69	58	50	45	60	52	45	40	39	35	31	28	25	23	17	16	14	10
5	63	51	44	38	55	46	39	34	35	30	27	25	22	19	15	14	12	8
6	58	46	38	33	51	41	34	29	31	27	23	22	19	17	14	12	11	7
7	53	41	34	28	47	37	30	25	28	24	20	20	17	15	13	11	9	6
8	49	37	30	25	43	33	27	22	26	21	18	18	15	13	12	10	8	6
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5
10	42	31	24	19	37	28	22	17	21	17	14	15	12	10	10	8	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	1.9
20°-30°	163.0	2.8
30°-40°	194.6	3.3
40°-50°	203.6	3.5
50°-60°	191.1	3.3
60°-70°	159.6	2.7
70°-80°	114.2	2.0
80°-90°	72.2	1.2
90°-100°	96.3	1.6
100°-110°	286.8	4.9
110°-120°	634.4	10.8
120°-130°	793.2	13.5
130°-140°	840.1	14.4
140°-150°	781.7	13.4
150°-160°	629.6	10.8
160°-170°	406.3	6.9
170°-180°	140.0	2.4
0°-30°	310.1	5.3
0°-40°	504.7	8.6
0°-60°	899.4	15.4
0°-90°	1245.3	21.3
90°-120°	1017.5	17.4
90°-150°	3432.4	58.6
90°-180°	4608.0	78.7
0°-180°	5853.8	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	40	76	94	102	7
95°	72	47	77	98	103	86
105°	330	347	273	102	97	350
115°	614	627	652	673	681	606
125°	864	873	890	901	907	772
135°	1075	1081	1090	1101	1101	827
145°	1240	1247	1249	1255	1257	776
155°	1366	1364	1364	1369	1363	629
165°	1440	1437	1436	1443	1437	407
175°	1474	1469	1470	1476	1468	140
180°	1474	1474	1474	1474	1474	



TEST NUMBER: P331904-830

CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D

**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	22.6	27.9	33.3	38.7	44.4	50.0	55.6	61.2	64.8
90°	6.8	14.0	21.2	28.5	35.6	43.4	51.5	59.7	67.8	75.9	80.2
92.5°	25.7	29.3	33.0	36.7	40.2	45.7	53.0	60.3	67.6	74.8	79.6
95°	71.6	65.4	59.3	53.2	46.9	47.6	55.0	62.5	69.9	77.4	82.2
97.5°	138.6	137.5	136.5	135.4	134.4	127.4	114.4	101.5	88.5	75.6	80.4
100°	189.0	197.0	205.0	213.0	220.9	208.2	174.7	141.3	107.8	74.4	79.1
102.5°	246.5	252.8	259.1	265.4	271.7	256.4	219.3	182.3	145.2	108.1	104.9
105°	329.8	334.9	339.9	344.9	349.9	343.6	325.8	308.2	290.5	272.8	232.4
107.5°	417.4	421.5	425.7	429.8	433.9	439.7	447.1	454.6	461.9	469.4	440.5
110°	475.7	479.4	483.1	486.8	490.5	495.7	502.3	508.8	515.4	522.0	516.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	531.8	535.0	538.2	541.4	544.5	549.4	555.8	562.2	568.6	575.0	577.7
115°	614.3	617.0	619.6	622.3	624.8	629.1	634.7	640.5	646.1	651.9	656.6
117.5°	694.7	697.1	699.6	702.2	704.7	708.2	712.6	717.0	721.4	725.9	730.1
120°	744.2	746.9	749.6	752.2	754.9	758.3	762.1	766.1	770.1	774.0	778.3
122.5°	795.0	797.1	799.1	801.2	803.2	806.3	810.2	814.3	818.2	822.2	825.8
125°	864.2	866.2	868.1	870.1	872.0	874.9	878.7	882.5	886.3	890.1	892.6
127.5°	931.7	933.5	935.4	937.3	939.1	941.8	945.3	948.8	952.3	955.8	958.5
130°	973.7	975.5	977.4	979.3	981.1	983.5	986.5	989.4	992.3	995.2	998.1
132.5°	1013.7	1015.6	1017.6	1019.5	1021.3	1023.5	1025.9	1028.2	1030.6	1032.8	1035.7
135°	1075.2	1076.5	1077.9	1079.2	1080.5	1082.3	1084.3	1086.4	1088.4	1090.4	1093.0
137.5°	1127.6	1129.4	1131.1	1132.9	1134.7	1136.1	1137.3	1138.4	1139.5	1140.7	1143.4
140°	1162.2	1163.8	1165.2	1166.7	1168.1	1169.4	1170.4	1171.4	1172.4	1173.5	1175.9
142.5°	1194.7	1196.1	1197.5	1198.8	1200.2	1201.4	1202.1	1202.9	1203.7	1204.5	1206.5
145°	1240.0	1241.6	1243.2	1244.8	1246.4	1247.5	1248.0	1248.5	1249.0	1249.4	1250.8
147.5°	1282.3	1283.5	1284.6	1285.6	1286.8	1287.6	1288.1	1288.5	1289.0	1289.5	1290.2
150°	1308.6	1309.3	1310.0	1310.8	1311.5	1312.1	1312.6	1313.1	1313.6	1314.1	1314.6
152.5°	1332.3	1332.6	1332.9	1333.2	1333.6	1333.9	1334.2	1334.5	1334.8	1335.1	1336.0
155°	1365.6	1365.1	1364.5	1364.0	1363.6	1363.5	1363.7	1364.0	1364.2	1364.4	1365.6
157.5°	1391.4	1391.3	1391.3	1391.2	1391.2	1391.0	1390.8	1390.5	1390.3	1390.1	1391.6
160°	1407.1	1406.9	1406.7	1406.5	1406.2	1405.9	1405.7	1405.4	1405.2	1405.0	1406.5
162.5°	1422.0	1421.4	1420.8	1420.1	1419.5	1419.1	1418.8	1418.6	1418.3	1418.1	1419.8
165°	1440.0	1439.3	1438.5	1437.8	1437.1	1436.6	1436.3	1436.1	1435.9	1435.6	1437.6
167.5°	1454.1	1453.0	1452.1	1451.1	1450.1	1449.6	1449.6	1449.6	1449.6	1449.6	1451.6
170°	1461.9	1460.9	1460.0	1459.0	1458.0	1457.5	1457.5	1457.5	1457.5	1457.5	1459.4
172.5°	1467.2	1466.0	1464.8	1463.7	1462.4	1462.0	1462.2	1462.4	1462.5	1462.7	1464.7
175°	1473.9	1472.7	1471.5	1470.3	1469.0	1468.6	1468.9	1469.0	1469.3	1469.5	1471.3
177.5°	1475.7	1474.7	1473.8	1472.8	1471.8	1471.4	1471.6	1471.8	1472.0	1472.2	1473.8
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9



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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°	68.2	71.7	75.2	77.6	78.6	79.7	80.8	81.8
90°	84.5	88.8	93.0	96.0	97.5	98.9	100.4	101.8
92.5°	84.5	89.3	94.1	97.0	98.2	99.4	100.6	101.8
95°	86.9	91.6	96.3	99.2	100.2	101.1	102.1	103.1
97.5°	85.3	90.1	95.0	98.0	99.2	100.5	101.7	102.9
100°	83.9	88.7	93.5	96.4	97.6	98.9	100.1	101.3
102.5°	101.6	98.3	95.0	94.1	95.5	96.9	98.3	99.7
105°	192.1	151.7	111.4	91.9	93.3	94.6	96.0	97.4
107.5°	411.5	382.5	353.5	323.3	291.6	260.0	228.5	196.8
110°	511.0	505.5	500.0	480.2	446.2	412.2	378.2	344.2





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CATALOG NUMBER: S123DIP-S340D1195U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	580.2	582.9	585.5	583.5	577.0	570.5	564.1	557.6
115°	661.4	666.2	670.9	674.2	676.0	677.7	679.5	681.2
117.5°	734.4	738.7	742.9	745.6	746.5	747.4	748.4	749.4
120°	782.4	786.6	790.8	793.2	793.9	794.6	795.3	796.0
122.5°	829.2	832.8	836.3	838.5	839.4	840.3	841.1	842.1
125°	895.1	897.7	900.2	902.1	903.2	904.5	905.6	906.8
127.5°	961.2	963.9	966.7	968.1	968.3	968.5	968.7	968.7
130°	1000.9	1003.7	1006.5	1008.0	1008.0	1008.1	1008.2	1008.4
132.5°	1038.4	1041.1	1043.9	1045.3	1045.2	1045.2	1045.2	1045.2
135°	1095.4	1098.0	1100.4	1101.5	1101.3	1101.1	1100.8	1100.6
137.5°	1146.1	1148.9	1151.5	1152.9	1152.9	1152.9	1152.9	1152.9
140°	1178.4	1180.8	1183.2	1184.4	1184.4	1184.4	1184.4	1184.4
142.5°	1208.6	1210.7	1212.9	1213.8	1213.6	1213.3	1213.1	1213.0
145°	1252.0	1253.3	1254.5	1255.4	1255.7	1256.1	1256.5	1256.9
147.5°	1291.0	1291.7	1292.4	1292.4	1291.7	1290.9	1290.1	1289.3
150°	1315.0	1315.5	1316.0	1316.0	1315.4	1314.9	1314.4	1313.8
152.5°	1336.8	1337.8	1338.6	1338.5	1337.4	1336.3	1335.2	1334.2
155°	1366.9	1368.1	1369.3	1369.1	1367.7	1366.3	1364.8	1363.4
157.5°	1393.0	1394.4	1395.9	1395.7	1393.8	1391.9	1390.0	1388.1
160°	1407.9	1409.3	1410.8	1410.7	1409.0	1407.3	1405.5	1403.8
162.5°	1421.4	1423.1	1424.7	1424.7	1423.2	1421.7	1420.2	1418.7
165°	1439.5	1441.4	1443.4	1443.5	1441.8	1440.1	1438.4	1436.7
167.5°	1453.5	1455.5	1457.5	1457.5	1455.5	1453.5	1451.6	1449.6
170°	1461.4	1463.4	1465.3	1465.3	1463.4	1461.4	1459.4	1457.5
172.5°	1466.7	1468.6	1470.6	1470.5	1468.3	1466.2	1464.1	1461.9
175°	1473.0	1474.7	1476.4	1476.2	1474.3	1472.3	1470.5	1468.5
177.5°	1475.3	1476.9	1478.4	1478.2	1476.3	1474.3	1472.3	1470.5
180°	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9	1473.9

(END OF REPORT)