

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: P331898

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331898
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-S340D1025U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5510.9 lumens
Efficiency: N/A
Efficacy: 147.7 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

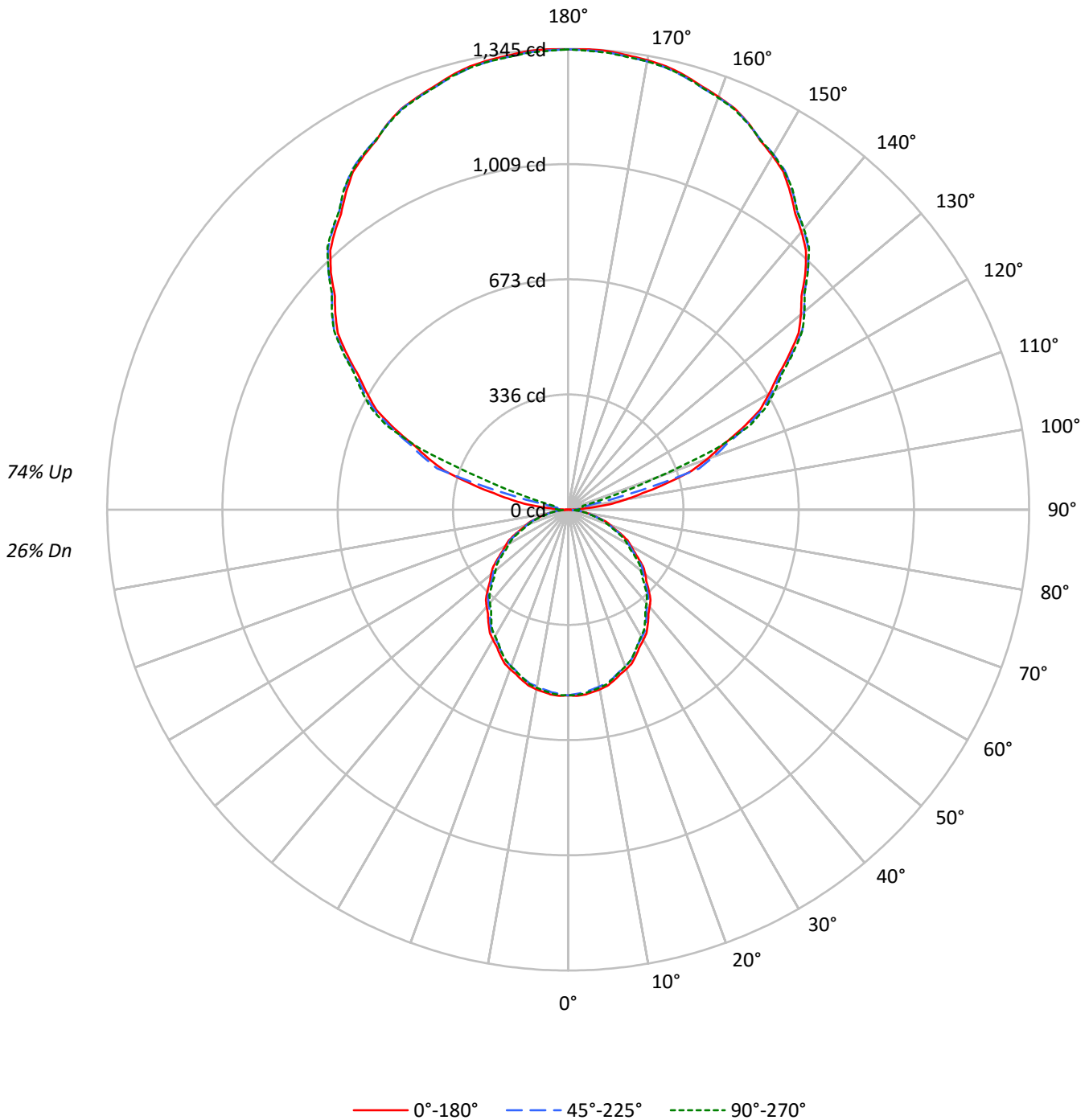
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	70	70	70	51	51	51	34	34	34	26
1	92	88	84	81	82	79	76	73	61	59	57	45	43	42	30	29	28	22
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18
3	77	67	60	55	68	60	54	50	47	43	39	35	32	30	23	22	20	15
4	70	60	52	46	62	53	47	42	42	37	34	31	28	25	21	19	17	13
5	64	53	45	39	57	47	41	36	37	32	29	28	24	22	19	17	15	11
6	59	47	39	34	52	42	36	31	33	28	25	25	22	19	17	15	13	10
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8
9	47	35	28	23	42	31	25	21	25	20	17	19	16	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5833	5833	5833
5°	5861	5780	5820
10°	5821	5729	5766
15°	5753	5665	5675
20°	5674	5573	5577
25°	5567	5462	5451
30°	5450	5340	5299
35°	5327	5210	5143
40°	5199	5067	4990
45°	5057	4937	4816
50°	4915	4776	4642
55°	4731	4609	4468
60°	4545	4413	4273
65°	4378	4200	4070
70°	4135	3959	3783
75°	3780	3643	3489
80°	3409	3267	3236
85°	2989	2878	2766



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.0	0.9
10°-20°	144.1	2.6
20°-30°	212.9	3.9
30°-40°	248.7	4.5
40°-50°	250.0	4.5
50°-60°	219.6	4.0
60°-70°	163.6	3.0
70°-80°	93.2	1.7
80°-90°	30.5	0.6
90°-100°	48.8	0.9
100°-110°	232.8	4.2
110°-120°	559.2	10.1
120°-130°	712.1	12.9
130°-140°	760.8	13.8
140°-150°	711.5	12.9
150°-160°	573.9	10.4
160°-170°	370.4	6.7
170°-180°	127.6	2.3
0°-30°	408.1	7.4
0°-40°	656.8	11.9
0°-60°	1126.5	20.4
0°-90°	1413.8	25.7
90°-120°	840.8	15.3
90°-150°	3025.2	54.9
90°-180°	4097.0	74.3
0°-180°	5510.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	540	535	539	539	51
15°	516	514	508	512	509	145
25°	469	466	460	460	459	216
35°	405	402	396	394	391	254
45°	332	330	324	319	316	256
55°	252	251	246	241	238	226
65°	172	170	165	161	160	170
75°	91	89	88	85	84	97
85°	24	23	23	22	22	27
90°	1	11	24	28	30	4
95°	61	23	31	38	38	75
105°	297	303	219	52	44	315
115°	558	564	573	583	587	551
125°	786	794	798	800	802	702
135°	979	985	989	992	989	754
145°	1130	1137	1139	1141	1141	707
155°	1245	1243	1244	1248	1243	573
165°	1313	1310	1309	1316	1310	371
175°	1344	1339	1340	1346	1338	128
180°	1344	1344	1344	1344	1344	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	543.8	543.4	543.1	542.8	542.4	541.8	540.9	540.0	539.1	538.2	539.0
5°	542.4	541.8	541.3	540.8	540.3	539.5	538.3	537.2	536.0	534.9	535.9
7.5°	537.1	536.5	536.0	535.5	535.0	534.1	533.0	531.8	530.6	529.4	530.3
10°	532.6	532.1	531.5	531.0	530.5	529.6	528.2	526.9	525.5	524.2	525.1
12.5°	526.6	526.2	525.7	525.3	524.9	524.0	522.8	521.5	520.2	519.0	519.7
15°	516.3	515.9	515.4	515.0	514.6	513.7	512.4	511.0	509.7	508.4	509.2
17.5°	504.2	503.7	503.2	502.6	502.1	501.2	499.8	498.5	497.1	495.8	496.3
20°	495.3	494.7	494.1	493.4	492.8	491.8	490.5	489.1	487.8	486.5	486.9
22.5°	485.2	484.6	484.0	483.4	482.8	481.8	480.4	479.1	477.7	476.4	476.7
25°	468.7	468.1	467.5	466.9	466.3	465.3	463.9	462.6	461.2	459.9	460.0
27.5°	451.1	450.5	449.9	449.3	448.7	447.7	446.3	444.8	443.4	441.9	442.0
30°	438.5	437.9	437.4	436.9	436.4	435.4	434.0	432.5	431.1	429.6	429.6
32.5°	425.8	425.1	424.4	423.7	423.1	422.1	421.0	419.9	418.8	417.7	417.1
35°	405.4	404.8	404.1	403.5	402.9	401.9	400.6	399.2	397.9	396.5	395.9
37.5°	384.5	383.7	382.9	382.1	381.4	380.3	378.9	377.5	376.2	374.8	374.1
40°	370.0	369.3	368.7	368.1	367.5	366.4	365.0	363.5	362.1	360.6	359.8
42.5°	355.4	354.7	354.0	353.3	352.6	351.5	350.1	348.6	347.2	345.7	344.9
45°	332.2	331.8	331.4	331.0	330.6	329.7	328.3	327.0	325.6	324.3	323.1
47.5°	309.2	308.6	308.0	307.4	306.8	305.9	304.6	303.3	302.1	300.8	299.6
50°	293.5	293.0	292.5	292.0	291.5	290.5	289.2	287.9	286.5	285.2	284.0
52.5°	277.1	276.8	276.4	276.1	275.7	274.8	273.4	272.0	270.6	269.1	268.2
55°	252.1	252.0	251.9	251.8	251.7	250.9	249.6	248.2	246.9	245.6	244.4
57.5°	228.2	227.9	227.5	227.2	226.8	226.1	225.0	223.9	222.9	221.8	220.8
60°	211.1	211.0	210.9	210.8	210.7	210.0	208.7	207.5	206.3	205.0	204.1
62.5°	195.8	195.5	195.3	195.0	194.7	194.0	192.7	191.5	190.2	189.0	188.1
65°	171.9	171.4	170.9	170.4	169.9	169.1	168.1	167.0	166.0	164.9	164.1
67.5°	146.7	146.2	145.8	145.3	144.9	144.2	143.5	142.7	141.9	141.1	140.4
70°	131.4	130.8	130.2	129.5	128.9	128.3	127.7	127.0	126.4	125.8	125.1
72.5°	115.4	114.9	114.5	114.0	113.5	113.0	112.3	111.6	110.9	110.2	109.5
75°	90.9	90.4	90.0	89.6	89.2	88.8	88.5	88.2	87.9	87.6	87.1
77.5°	69.1	68.9	68.7	68.5	68.2	67.9	67.6	67.2	66.8	66.4	66.1
80°	55.0	54.7	54.4	54.1	53.7	53.5	53.3	53.1	52.9	52.7	52.5
82.5°	41.2	41.1	41.1	41.0	40.9	40.9	40.8	40.8	40.8	40.7	40.5
85°	24.2	24.0	23.8	23.6	23.4	23.3	23.3	23.3	23.3	23.3	23.1
87.5°	9.9	10.1	10.3	10.5	10.7	11.0	11.5	12.0	12.5	13.0	13.1
90°	1.0	3.2	5.4	7.7	9.9	12.4	15.3	18.2	21.1	24.0	24.8
92.5°	18.6	17.9	17.3	16.7	16.1	16.9	19.0	21.2	23.4	25.6	27.0
95°	60.9	51.8	42.7	33.6	24.5	21.2	23.6	26.1	28.5	30.9	32.5
97.5°	122.4	118.3	114.2	110.1	106.0	96.0	80.1	64.1	48.1	32.1	33.9
100°	168.7	173.1	177.6	182.0	186.4	171.3	136.7	102.1	67.5	32.9	34.7
102.5°	221.4	224.6	227.8	231.0	234.2	216.9	179.1	141.3	103.5	65.7	60.2
105°	297.4	299.9	302.3	304.8	307.2	298.4	278.5	258.5	238.6	218.6	179.3
107.5°	377.7	379.7	381.6	383.6	385.5	388.1	391.2	394.4	397.5	400.7	371.9
110°	431.2	433.0	434.7	436.5	438.3	440.4	442.8	445.3	447.7	450.2	442.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	482.3	483.9	485.5	487.1	488.7	490.7	493.2	495.6	498.0	500.5	500.6
115°	558.0	559.3	560.6	562.0	563.3	565.0	566.9	568.9	570.9	572.9	575.2
117.5°	631.2	632.9	634.5	636.2	637.8	639.1	640.1	641.2	642.2	643.2	645.0
120°	676.7	678.7	680.7	682.7	684.7	686.1	686.7	687.4	688.1	688.7	690.5
122.5°	723.1	724.7	726.3	728.0	729.6	730.9	731.7	732.6	733.4	734.2	735.5
125°	786.5	788.3	790.1	791.9	793.6	795.0	795.9	796.7	797.6	798.5	799.0
127.5°	848.0	849.8	851.6	853.3	855.1	856.5	857.6	858.7	859.7	860.8	861.5
130°	886.4	888.1	889.9	891.7	893.5	894.8	895.7	896.6	897.4	898.3	899.2
132.5°	923.1	924.9	926.6	928.4	930.2	931.4	932.1	932.8	933.6	934.3	935.2
135°	979.2	980.5	981.8	983.2	984.5	985.6	986.5	987.4	988.3	989.2	989.8
137.5°	1027.1	1028.8	1030.5	1032.2	1033.8	1034.9	1035.4	1035.9	1036.4	1036.9	1037.9
140°	1059.0	1060.4	1061.7	1063.0	1064.4	1065.4	1066.0	1066.7	1067.4	1068.0	1068.9
142.5°	1088.6	1089.9	1091.2	1092.6	1093.9	1094.9	1095.6	1096.2	1096.9	1097.6	1098.3
145°	1129.9	1131.5	1133.0	1134.6	1136.1	1137.1	1137.6	1138.0	1138.4	1138.9	1139.3
147.5°	1168.8	1169.9	1170.9	1171.9	1172.9	1173.6	1174.1	1174.5	1175.0	1175.4	1175.9
150°	1192.8	1193.5	1194.1	1194.8	1195.4	1196.0	1196.4	1196.9	1197.3	1197.8	1198.2
152.5°	1214.3	1214.7	1215.0	1215.3	1215.6	1215.9	1216.1	1216.4	1216.7	1216.9	1217.7
155°	1244.7	1244.2	1243.8	1243.4	1242.9	1242.8	1243.0	1243.2	1243.5	1243.7	1244.8
157.5°	1268.2	1268.2	1268.2	1268.1	1268.1	1267.9	1267.7	1267.5	1267.3	1267.0	1268.4
160°	1282.6	1282.4	1282.2	1282.0	1281.7	1281.5	1281.3	1281.1	1280.8	1280.6	1282.0
162.5°	1296.2	1295.6	1295.0	1294.5	1293.9	1293.5	1293.3	1293.0	1292.8	1292.6	1294.1
165°	1312.6	1311.9	1311.2	1310.6	1309.9	1309.5	1309.2	1309.0	1308.8	1308.6	1310.3
167.5°	1325.3	1324.5	1323.6	1322.7	1321.8	1321.3	1321.3	1321.3	1321.3	1321.3	1323.1
170°	1332.5	1331.6	1330.8	1329.9	1329.0	1328.5	1328.5	1328.5	1328.5	1328.5	1330.3
172.5°	1337.3	1336.3	1335.2	1334.1	1333.1	1332.6	1332.8	1333.0	1333.1	1333.3	1335.1
175°	1343.5	1342.4	1341.3	1340.2	1339.1	1338.6	1338.8	1339.1	1339.3	1339.5	1341.1
177.5°	1345.1	1344.2	1343.3	1342.4	1341.6	1341.2	1341.4	1341.6	1341.7	1341.9	1343.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	539.8	540.7	541.5	541.9	541.8	541.7	541.6	541.5
5°	537.0	538.0	539.1	539.5	539.3	539.1	538.8	538.6
7.5°	531.3	532.2	533.1	533.5	533.4	533.3	533.2	533.0
10°	526.1	527.0	527.9	528.3	528.1	527.9	527.7	527.5
12.5°	520.3	521.0	521.7	522.0	521.9	521.7	521.6	521.5
15°	510.0	510.8	511.7	511.8	511.1	510.5	509.9	509.3
17.5°	496.9	497.5	498.1	498.3	498.0	497.8	497.6	497.4
20°	487.3	487.7	488.1	488.2	487.8	487.5	487.2	486.9
22.5°	477.0	477.4	477.7	477.7	477.3	476.9	476.5	476.1
25°	460.1	460.2	460.3	460.2	459.9	459.6	459.3	459.0
27.5°	442.1	442.2	442.2	442.1	441.7	441.3	440.9	440.5
30°	429.6	429.6	429.6	429.2	428.5	427.8	427.1	426.3
32.5°	416.5	415.9	415.4	414.9	414.5	414.1	413.7	413.3
35°	395.3	394.7	394.0	393.5	393.0	392.4	391.9	391.4
37.5°	373.3	372.6	371.8	371.3	371.0	370.6	370.3	370.0
40°	359.0	358.2	357.3	356.7	356.3	355.9	355.5	355.1
42.5°	344.1	343.2	342.4	341.8	341.4	341.0	340.6	340.1
45°	321.8	320.6	319.3	318.5	317.9	317.4	316.9	316.4
47.5°	298.4	297.2	295.9	295.1	294.6	294.2	293.7	293.3
50°	282.9	281.7	280.6	279.7	279.1	278.5	277.9	277.2
52.5°	267.2	266.2	265.2	264.4	263.8	263.2	262.6	262.0
55°	243.3	242.1	241.0	240.2	239.7	239.1	238.6	238.1
57.5°	219.8	218.7	217.7	216.9	216.3	215.7	215.1	214.5
60°	203.2	202.2	201.3	200.6	200.0	199.5	199.0	198.5
62.5°	187.1	186.2	185.3	184.6	184.3	183.9	183.6	183.2
65°	163.3	162.5	161.6	161.1	160.8	160.4	160.1	159.8
67.5°	139.6	138.9	138.2	137.6	137.2	136.7	136.3	135.9
70°	124.4	123.6	122.9	122.3	121.8	121.3	120.7	120.2
72.5°	108.9	108.2	107.6	107.1	106.9	106.6	106.3	106.0
75°	86.6	86.0	85.5	85.1	84.8	84.5	84.2	83.9
77.5°	65.7	65.4	65.0	64.9	64.9	64.9	64.9	64.9
80°	52.4	52.3	52.2	52.2	52.2	52.2	52.2	52.2
82.5°	40.4	40.2	40.0	39.8	39.8	39.7	39.6	39.5
85°	22.9	22.7	22.5	22.4	22.4	22.4	22.4	22.4
87.5°	13.2	13.3	13.4	13.5	13.6	13.6	13.7	13.8
90°	25.7	26.6	27.5	28.2	28.6	29.1	29.5	29.9
92.5°	28.4	29.8	31.2	32.1	32.3	32.6	32.9	33.1
95°	34.0	35.6	37.2	37.9	37.9	37.9	37.9	37.9
97.5°	35.7	37.5	39.2	40.2	40.5	40.7	40.9	41.1
100°	36.5	38.3	40.0	41.0	41.3	41.5	41.7	41.9
102.5°	54.7	49.2	43.7	41.1	41.5	41.9	42.3	42.7
105°	140.1	100.8	61.6	42.1	42.6	43.0	43.5	43.9
107.5°	343.1	314.3	285.5	256.3	226.7	197.1	167.5	137.9
110°	435.5	428.2	420.9	401.4	369.6	337.9	306.2	274.5



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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	500.7	500.9	501.0	497.7	491.0	484.3	477.6	470.9
115°	577.4	579.6	581.8	583.4	584.2	585.1	586.0	586.9
117.5°	646.8	648.5	650.3	651.3	651.5	651.6	651.8	652.0
120°	692.3	694.0	695.8	696.7	696.7	696.7	696.7	696.7
122.5°	736.7	738.0	739.2	739.9	740.1	740.3	740.4	740.6
125°	799.4	799.8	800.3	800.7	801.2	801.6	802.1	802.5
127.5°	862.2	862.9	863.6	863.8	863.3	862.9	862.4	862.0
130°	900.1	901.0	901.9	902.1	901.7	901.2	900.8	900.3
132.5°	936.0	936.9	937.8	937.9	937.3	936.7	936.1	935.5
135°	990.5	991.2	991.8	991.8	991.2	990.5	989.8	989.2
137.5°	1039.0	1040.1	1041.1	1041.4	1041.0	1040.6	1040.1	1039.7
140°	1069.8	1070.7	1071.6	1071.8	1071.3	1070.9	1070.5	1070.0
142.5°	1099.0	1099.7	1100.4	1100.4	1099.8	1099.2	1098.6	1098.0
145°	1139.8	1140.2	1140.7	1140.9	1140.9	1140.9	1140.9	1140.9
147.5°	1176.3	1176.7	1177.2	1176.9	1175.9	1174.9	1173.8	1172.8
150°	1198.7	1199.1	1199.6	1199.4	1198.8	1198.1	1197.4	1196.8
152.5°	1218.5	1219.3	1220.1	1220.0	1219.0	1218.0	1217.0	1215.9
155°	1245.9	1247.0	1248.1	1248.0	1246.7	1245.4	1244.0	1242.7
157.5°	1269.7	1271.0	1272.4	1272.2	1270.4	1268.7	1267.0	1265.3
160°	1283.3	1284.6	1285.9	1285.8	1284.3	1282.7	1281.2	1279.6
162.5°	1295.6	1297.1	1298.6	1298.7	1297.3	1295.9	1294.6	1293.2
165°	1312.1	1313.9	1315.7	1315.8	1314.2	1312.7	1311.1	1309.6
167.5°	1324.9	1326.7	1328.4	1328.4	1326.7	1324.9	1323.1	1321.3
170°	1332.1	1333.9	1335.6	1335.6	1333.9	1332.1	1330.3	1328.5
172.5°	1336.9	1338.6	1340.4	1340.3	1338.4	1336.4	1334.5	1332.5
175°	1342.6	1344.2	1345.7	1345.6	1343.8	1342.1	1340.3	1338.5
177.5°	1344.7	1346.2	1347.6	1347.4	1345.6	1343.9	1342.1	1340.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5

(END OF REPORT)