

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: P331904-940

Luminaire Tested: **S123DIP-S340D1195U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331904-940
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-S340D1195U940-4F0-1E-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: 5538.1 lumens
Efficiency: N/A
Efficacy: 131.2 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

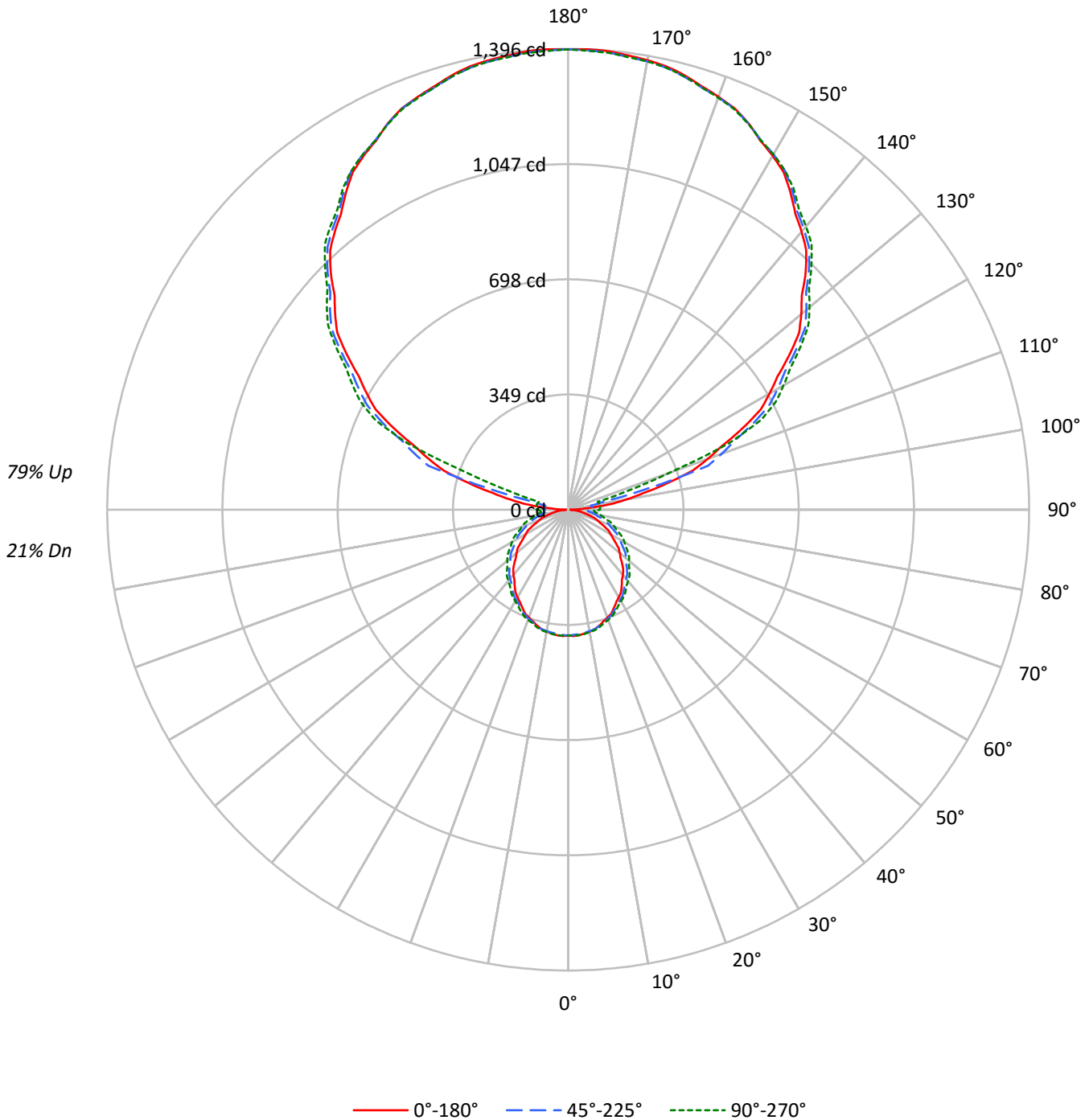
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4105	4105	4105
5°	4118	4002	4004
10°	4082	3910	3890
15°	4029	3805	3766
20°	3954	3686	3630
25°	3860	3549	3485
30°	3767	3425	3339
35°	3659	3294	3223
40°	3557	3175	3098
45°	3445	3060	2998
50°	3333	2947	2888
55°	3211	2831	2789
60°	3090	2713	2689
65°	2967	2588	2567
70°	2783	2448	2443
75°	2551	2287	2318
80°	2278	2128	2175
85°	2025	2018	2090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	0.7
10°-20°	103.1	1.9
20°-30°	154.2	2.8
30°-40°	184.1	3.3
40°-50°	192.6	3.5
50°-60°	180.7	3.3
60°-70°	151.0	2.7
70°-80°	108.0	2.0
80°-90°	68.3	1.2
90°-100°	91.1	1.6
100°-110°	271.3	4.9
110°-120°	600.2	10.8
120°-130°	750.4	13.5
130°-140°	794.8	14.4
140°-150°	739.5	13.4
150°-160°	595.7	10.8
160°-170°	384.4	6.9
170°-180°	132.5	2.4
0°-30°	293.4	5.3
0°-40°	477.5	8.6
0°-60°	850.9	15.4
0°-90°	1178.2	21.3
90°-120°	962.7	17.4
90°-150°	3247.3	58.6
90°-180°	4360.0	78.7
0°-180°	5538.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	381	381	381	381	381	
5°	382	381	378	382	381	36
15°	364	365	364	368	368	102
25°	328	332	334	339	339	151
35°	282	289	295	301	302	177
45°	231	241	251	259	263	178
55°	176	190	205	216	219	158
65°	122	138	156	168	173	120
75°	66	86	106	120	125	71
85°	20	41	63	77	81	21
90°	6	37	72	89	96	7
95°	68	45	73	92	98	82
105°	312	328	258	96	92	331
115°	581	593	617	636	644	574
125°	818	826	842	853	858	730
135°	1017	1023	1032	1042	1041	783
145°	1173	1180	1182	1187	1189	734
155°	1292	1290	1291	1295	1290	595
165°	1362	1359	1358	1366	1359	385
175°	1394	1390	1390	1397	1389	133
180°	1394	1394	1394	1394	1394	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	383.1	382.9	382.6	382.5	382.2	381.8	381.2	380.6	380.0	379.4	380.0
5°	381.8	381.7	381.5	381.3	381.1	380.8	380.1	379.6	379.1	378.5	379.2
7.5°	378.1	378.2	378.2	378.2	378.3	378.0	377.5	376.9	376.4	375.9	376.7
10°	374.8	375.0	375.1	375.3	375.5	375.4	374.9	374.4	374.0	373.5	374.4
12.5°	370.8	371.0	371.3	371.6	371.8	371.8	371.5	371.1	370.9	370.5	371.4
15°	363.6	363.8	364.1	364.4	364.6	364.8	364.6	364.5	364.4	364.4	365.3
17.5°	354.5	355.0	355.5	356.1	356.6	356.9	356.9	356.8	356.8	356.8	357.6
20°	347.8	348.3	348.8	349.5	350.0	350.4	350.5	350.7	350.9	351.1	352.0
22.5°	340.8	341.3	341.9	342.4	343.0	343.4	343.7	343.9	344.2	344.5	345.5
25°	328.2	329.1	330.1	331.0	331.9	332.5	332.8	333.1	333.3	333.7	334.8
27.5°	315.6	316.6	317.7	318.8	319.9	320.7	321.2	321.8	322.4	323.0	324.0
30°	306.7	307.8	309.1	310.2	311.5	312.4	313.2	313.9	314.6	315.4	316.5
32.5°	296.7	298.0	299.3	300.7	302.0	303.2	304.2	305.1	306.1	307.0	308.3
35°	282.5	284.0	285.5	287.0	288.5	289.8	291.0	292.2	293.4	294.6	296.0
37.5°	267.6	269.2	270.9	272.6	274.2	275.8	277.2	278.7	280.3	281.7	283.3
40°	257.6	259.3	260.9	262.6	264.2	266.0	267.9	269.7	271.5	273.4	275.0
42.5°	246.6	248.7	250.7	252.7	254.8	256.7	258.7	260.6	262.5	264.4	266.2
45°	231.0	233.3	235.4	237.6	239.9	242.1	244.4	246.7	249.1	251.4	253.2
47.5°	214.6	217.1	219.6	222.2	224.7	227.3	229.9	232.6	235.1	237.8	239.8
50°	204.0	206.6	209.2	211.8	214.4	217.0	219.9	222.8	225.7	228.5	230.7
52.5°	192.7	195.5	198.1	200.9	203.7	206.6	209.7	212.9	216.1	219.2	221.4
55°	176.2	179.2	182.3	185.3	188.3	191.5	194.8	198.2	201.5	204.8	207.3
57.5°	160.1	163.2	166.4	169.6	172.7	176.2	179.8	183.4	187.1	190.7	193.2
60°	148.7	152.0	155.4	158.7	162.0	165.6	169.4	173.2	176.9	180.7	183.3
62.5°	138.1	141.5	144.9	148.3	151.7	155.4	159.4	163.5	167.5	171.5	174.0
65°	121.7	125.4	128.9	132.5	136.2	140.0	144.0	148.1	152.1	156.2	159.0
67.5°	105.1	109.0	112.8	116.5	120.4	124.4	128.5	132.7	136.8	141.0	143.9
70°	93.5	97.5	101.4	105.4	109.3	113.6	118.0	122.4	126.9	131.3	134.3
72.5°	82.8	86.9	90.8	94.8	98.7	103.0	107.5	112.2	116.7	121.4	124.4
75°	66.1	70.4	74.7	79.1	83.5	87.9	92.6	97.1	101.7	106.4	109.4
77.5°	51.5	55.8	60.2	64.6	68.9	73.5	78.1	82.8	87.4	92.1	95.3
80°	41.1	45.7	50.2	54.8	59.2	63.9	68.7	73.5	78.3	83.1	86.2
82.5°	32.2	36.7	41.4	45.9	50.6	55.3	60.2	65.0	69.9	74.8	77.9
85°	20.3	25.0	29.6	34.2	38.8	43.6	48.5	53.3	58.2	63.1	66.3
87.5°	11.2	16.3	21.4	26.4	31.5	36.6	42.0	47.3	52.6	57.9	61.3
90°	6.4	13.3	20.1	26.9	33.7	41.0	48.7	56.4	64.1	71.8	75.9
92.5°	24.3	27.7	31.2	34.7	38.1	43.2	50.1	57.1	63.9	70.8	75.3
95°	67.8	61.9	56.1	50.3	44.4	45.0	52.1	59.1	66.2	73.2	77.8
97.5°	131.1	130.1	129.1	128.1	127.2	120.6	108.3	96.0	83.7	71.5	76.1
100°	178.8	186.4	193.9	201.5	209.0	197.0	165.3	133.7	102.0	70.4	74.8
102.5°	233.2	239.2	245.1	251.1	257.1	242.5	207.5	172.5	137.4	102.3	99.2
105°	312.0	316.8	321.6	326.3	331.0	325.0	308.3	291.6	274.8	258.1	219.9
107.5°	394.8	398.8	402.7	406.6	410.5	416.0	423.0	430.1	437.0	444.1	416.7
110°	450.0	453.5	457.1	460.6	464.0	469.0	475.2	481.3	487.6	493.8	488.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	503.1	506.1	509.2	512.2	515.1	519.8	525.8	531.9	538.0	544.0	546.5
115°	581.2	583.7	586.2	588.7	591.1	595.1	600.5	605.9	611.3	616.7	621.2
117.5°	657.2	659.5	661.9	664.3	666.7	670.0	674.1	678.3	682.5	686.7	690.7
120°	704.1	706.6	709.2	711.7	714.2	717.4	721.0	724.8	728.5	732.3	736.3
122.5°	752.2	754.1	756.0	758.0	759.9	762.8	766.5	770.3	774.1	777.8	781.2
125°	817.6	819.5	821.3	823.1	825.0	827.7	831.3	834.9	838.5	842.1	844.5
127.5°	881.5	883.2	884.9	886.7	888.4	891.0	894.3	897.6	900.9	904.3	906.8
130°	921.2	922.9	924.7	926.5	928.2	930.5	933.3	936.0	938.8	941.6	944.2
132.5°	959.0	960.8	962.7	964.5	966.3	968.3	970.5	972.8	975.0	977.1	979.8
135°	1017.2	1018.4	1019.8	1021.0	1022.3	1024.0	1025.8	1027.8	1029.7	1031.6	1034.0
137.5°	1066.8	1068.4	1070.1	1071.8	1073.5	1074.9	1075.9	1077.0	1078.1	1079.1	1081.7
140°	1099.6	1101.0	1102.3	1103.8	1105.1	1106.3	1107.2	1108.2	1109.2	1110.2	1112.5
142.5°	1130.2	1131.6	1132.9	1134.2	1135.5	1136.6	1137.3	1138.0	1138.8	1139.5	1141.5
145°	1173.1	1174.7	1176.2	1177.7	1179.2	1180.3	1180.7	1181.2	1181.6	1182.1	1183.3
147.5°	1213.2	1214.2	1215.3	1216.3	1217.4	1218.2	1218.6	1219.1	1219.5	1219.9	1220.7
150°	1238.1	1238.7	1239.4	1240.1	1240.8	1241.4	1241.8	1242.2	1242.8	1243.2	1243.7
152.5°	1260.4	1260.7	1261.1	1261.3	1261.7	1261.9	1262.2	1262.6	1262.8	1263.1	1263.9
155°	1291.9	1291.5	1290.9	1290.5	1290.0	1289.9	1290.1	1290.4	1290.7	1290.8	1292.0
157.5°	1316.3	1316.3	1316.3	1316.2	1316.2	1316.0	1315.8	1315.5	1315.4	1315.1	1316.5
160°	1331.2	1331.1	1330.8	1330.6	1330.3	1330.1	1329.9	1329.6	1329.5	1329.2	1330.6
162.5°	1345.3	1344.8	1344.2	1343.5	1342.9	1342.6	1342.3	1342.1	1341.8	1341.6	1343.2
165°	1362.4	1361.6	1360.9	1360.3	1359.6	1359.1	1358.9	1358.6	1358.4	1358.2	1360.0
167.5°	1375.6	1374.7	1373.8	1372.9	1371.9	1371.5	1371.5	1371.5	1371.5	1371.5	1373.3
170°	1383.0	1382.2	1381.3	1380.3	1379.4	1378.9	1378.9	1378.9	1378.9	1378.9	1380.7
172.5°	1388.0	1387.0	1385.8	1384.7	1383.6	1383.1	1383.3	1383.5	1383.7	1383.8	1385.7
175°	1394.5	1393.3	1392.1	1391.0	1389.8	1389.4	1389.6	1389.8	1390.1	1390.3	1392.0
177.5°	1396.2	1395.2	1394.3	1393.4	1392.4	1392.0	1392.2	1392.4	1392.6	1392.8	1394.3
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	380.6	381.2	381.8	382.0	382.0	381.9	381.8	381.7
5°	380.0	380.8	381.5	381.8	381.7	381.6	381.5	381.4
7.5°	377.7	378.6	379.5	380.0	379.9	379.7	379.6	379.5
10°	375.4	376.3	377.2	377.6	377.4	377.2	377.0	376.8
12.5°	372.2	373.1	373.9	374.3	374.1	373.9	373.7	373.5
15°	366.2	367.1	368.1	368.5	368.4	368.3	368.2	368.1
17.5°	358.4	359.3	360.1	360.4	360.3	360.2	360.1	359.9
20°	352.8	353.6	354.5	354.9	355.0	355.1	355.2	355.3
22.5°	346.5	347.6	348.7	349.2	349.1	349.0	349.0	348.9
25°	336.0	337.2	338.4	339.0	339.0	339.0	339.0	339.0
27.5°	325.0	326.1	327.2	327.7	327.8	327.9	327.9	328.0
30°	317.5	318.7	319.8	320.3	320.3	320.3	320.3	320.3
32.5°	309.4	310.6	311.7	312.5	312.7	312.9	313.2	313.3
35°	297.4	298.7	300.1	301.0	301.4	301.8	302.1	302.5
37.5°	284.8	286.4	288.0	288.9	289.2	289.5	289.8	290.1
40°	276.5	278.1	279.6	280.6	281.0	281.4	281.8	282.1
42.5°	267.9	269.6	271.3	272.4	273.0	273.4	273.9	274.5
45°	254.9	256.6	258.4	259.7	260.4	261.1	261.9	262.6
47.5°	241.7	243.8	245.8	247.0	247.5	248.2	248.7	249.3
50°	232.7	234.9	237.0	238.4	239.1	239.7	240.3	241.0
52.5°	223.6	225.8	228.0	229.5	230.3	231.1	231.8	232.6
55°	209.8	212.3	214.8	216.4	217.1	217.9	218.6	219.4
57.5°	195.7	198.2	200.7	202.4	203.3	204.2	205.1	205.9
60°	185.9	188.5	191.1	192.9	193.9	194.9	195.9	197.0
62.5°	176.6	179.1	181.7	183.5	184.5	185.4	186.4	187.3
65°	161.8	164.5	167.3	169.2	170.0	171.0	171.9	172.8
67.5°	147.0	150.0	153.0	155.0	155.7	156.5	157.3	158.0
70°	137.2	140.2	143.1	145.1	146.0	146.9	147.8	148.7
72.5°	127.3	130.4	133.4	135.5	136.3	137.2	138.2	139.1
75°	112.4	115.5	118.6	120.6	121.7	122.9	123.9	125.1
77.5°	98.5	101.7	105.0	106.9	107.8	108.7	109.5	110.4
80°	89.3	92.6	95.7	97.6	98.6	99.5	100.5	101.4
82.5°	81.1	84.2	87.4	89.3	90.3	91.2	92.1	93.1
85°	69.5	72.6	75.7	77.8	78.6	79.6	80.5	81.4
87.5°	64.6	67.9	71.2	73.4	74.4	75.4	76.4	77.4
90°	79.9	84.0	88.0	90.8	92.2	93.5	95.0	96.3
92.5°	79.9	84.4	89.0	91.8	92.9	94.1	95.1	96.3
95°	82.2	86.7	91.1	93.8	94.8	95.7	96.6	97.6
97.5°	80.7	85.2	89.9	92.7	93.9	95.1	96.2	97.4
100°	79.4	83.9	88.5	91.2	92.4	93.5	94.7	95.9
102.5°	96.1	93.0	89.9	89.0	90.3	91.7	93.0	94.3
105°	181.7	143.6	105.4	86.9	88.3	89.5	90.9	92.1
107.5°	389.3	361.9	334.5	305.9	275.9	246.0	216.2	186.2
110°	483.4	478.2	473.1	454.3	422.1	389.9	357.8	325.7



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CATALOG NUMBER: S123DIP-S340D1195U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	548.9	551.4	553.9	552.1	545.9	539.8	533.7	527.5
115°	625.7	630.3	634.7	637.8	639.5	641.1	642.8	644.4
117.5°	694.8	698.8	702.8	705.3	706.2	707.1	708.0	709.0
120°	740.2	744.2	748.1	750.5	751.1	751.7	752.4	753.0
122.5°	784.5	787.9	791.2	793.3	794.2	795.0	795.8	796.7
125°	846.9	849.3	851.7	853.5	854.5	855.7	856.8	857.9
127.5°	909.4	912.0	914.5	915.9	916.1	916.2	916.4	916.5
130°	946.9	949.6	952.3	953.6	953.7	953.8	953.9	954.0
132.5°	982.4	985.0	987.6	988.9	988.8	988.8	988.8	988.8
135°	1036.3	1038.8	1041.1	1042.1	1041.9	1041.7	1041.4	1041.3
137.5°	1084.3	1086.9	1089.4	1090.7	1090.7	1090.7	1090.7	1090.7
140°	1114.8	1117.1	1119.4	1120.5	1120.5	1120.5	1120.5	1120.5
142.5°	1143.4	1145.4	1147.5	1148.3	1148.2	1147.9	1147.7	1147.5
145°	1184.5	1185.7	1186.9	1187.7	1188.0	1188.4	1188.7	1189.1
147.5°	1221.4	1222.0	1222.7	1222.7	1222.0	1221.3	1220.5	1219.8
150°	1244.1	1244.6	1245.0	1245.0	1244.5	1244.0	1243.5	1243.0
152.5°	1264.7	1265.6	1266.4	1266.3	1265.2	1264.3	1263.2	1262.2
155°	1293.2	1294.3	1295.5	1295.3	1294.0	1292.6	1291.2	1289.9
157.5°	1317.9	1319.2	1320.6	1320.4	1318.7	1316.8	1315.0	1313.2
160°	1331.9	1333.3	1334.7	1334.6	1333.0	1331.4	1329.7	1328.1
162.5°	1344.8	1346.3	1347.9	1347.9	1346.5	1345.1	1343.6	1342.2
165°	1361.9	1363.7	1365.6	1365.7	1364.1	1362.4	1360.8	1359.2
167.5°	1375.1	1377.0	1378.9	1378.9	1377.0	1375.1	1373.3	1371.5
170°	1382.6	1384.5	1386.3	1386.3	1384.5	1382.6	1380.7	1378.9
172.5°	1387.6	1389.4	1391.2	1391.2	1389.1	1387.1	1385.1	1383.0
175°	1393.6	1395.2	1396.8	1396.6	1394.8	1392.9	1391.2	1389.3
177.5°	1395.7	1397.2	1398.6	1398.5	1396.7	1394.8	1392.9	1391.2
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5

(END OF REPORT)