

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

Luminaire Tested: **S123DIP-S340D1195U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331904
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-S340D1195U835-4F0-1E-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

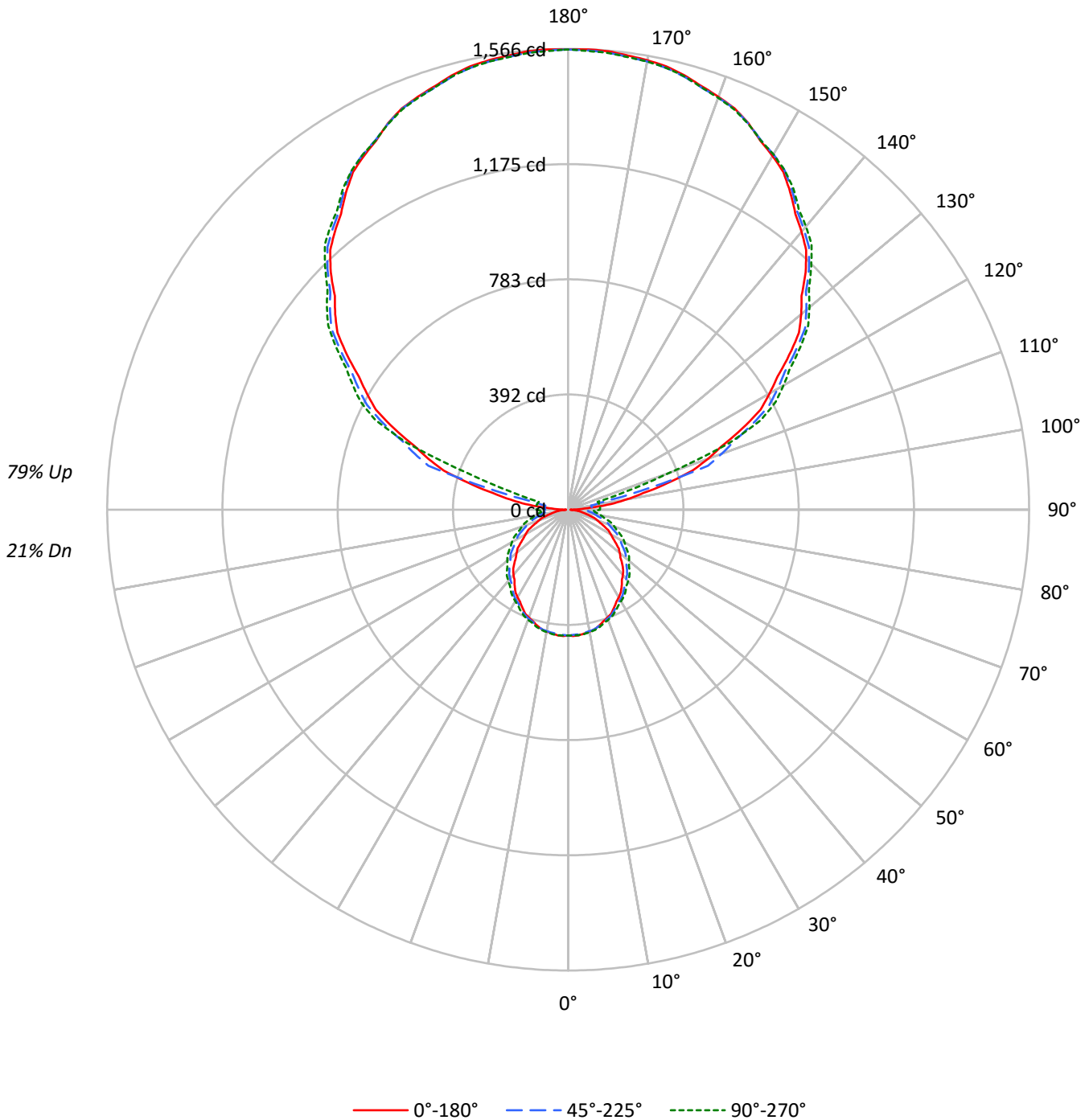
Lumens per Lamp: N/A
Luminaire Lumens: 6210.6 lumens
Efficiency: N/A
Efficacy: 147.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (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	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°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.7
10°-20°	115.6	1.9
20°-30°	172.9	2.8
30°-40°	206.5	3.3
40°-50°	216.0	3.5
50°-60°	202.7	3.3
60°-70°	169.3	2.7
70°-80°	121.1	2.0
80°-90°	76.6	1.2
90°-100°	102.2	1.6
100°-110°	304.3	4.9
110°-120°	673.1	10.8
120°-130°	841.5	13.5
130°-140°	891.3	14.4
140°-150°	829.3	13.4
150°-160°	668.0	10.8
160°-170°	431.1	6.9
170°-180°	148.6	2.4
0°-30°	329.0	5.3
0°-40°	535.5	8.6
0°-60°	954.2	15.4
0°-90°	1321.3	21.3
90°-120°	1079.6	17.4
90°-150°	3641.7	58.6
90°-180°	4889.0	78.7
0°-180°	6210.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	7	42	80	100	108	7
95°	76	50	82	104	109	92
105°	350	368	289	108	103	371
115°	652	665	692	714	723	643
125°	917	927	944	956	962	819
135°	1141	1147	1157	1168	1168	878
145°	1316	1323	1326	1331	1334	823
155°	1449	1447	1448	1453	1446	667
165°	1528	1524	1523	1531	1524	431
175°	1564	1558	1559	1566	1558	149
180°	1564	1564	1564	1564	1564	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.6	18.3	24.0	29.6	35.3	41.1	47.1	53.0	59.0	64.9	68.7
90°	7.2	14.9	22.5	30.2	37.8	46.0	54.6	63.3	71.9	80.5	85.1
92.5°	27.3	31.1	35.0	38.9	42.7	48.5	56.2	64.0	71.7	79.4	84.5
95°	76.0	69.4	62.9	56.4	49.8	50.5	58.4	66.3	74.2	82.1	87.2
97.5°	147.0	145.9	144.8	143.7	142.6	135.2	121.4	107.7	93.9	80.2	85.3
100°	200.5	209.0	217.5	226.0	234.4	220.9	185.4	149.9	114.4	78.9	83.9
102.5°	261.5	268.2	274.9	281.6	288.3	272.0	232.7	193.4	154.1	114.7	111.3
105°	349.9	355.3	360.6	365.9	371.2	364.5	345.7	327.0	308.2	289.4	246.6
107.5°	442.8	447.2	451.6	456.0	460.3	466.5	474.4	482.3	490.1	498.0	467.3
110°	504.7	508.6	512.6	516.5	520.4	525.9	532.9	539.8	546.8	553.8	548.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	564.2	567.6	571.0	574.4	577.7	582.9	589.7	596.5	603.3	610.1	612.9
115°	651.8	654.6	657.4	660.2	662.9	667.4	673.4	679.5	685.5	691.6	696.6
117.5°	737.0	739.6	742.3	745.0	747.7	751.4	756.0	760.7	765.4	770.1	774.6
120°	789.6	792.4	795.3	798.1	800.9	804.5	808.6	812.8	817.0	821.2	825.7
122.5°	843.5	845.7	847.8	850.0	852.2	855.4	859.6	863.9	868.1	872.3	876.1
125°	916.9	919.0	921.0	923.1	925.2	928.2	932.3	936.3	940.3	944.4	947.0
127.5°	988.5	990.4	992.4	994.4	996.3	999.2	1002.9	1006.6	1010.3	1014.1	1016.9
130°	1033.1	1035.0	1037.0	1039.0	1040.9	1043.5	1046.6	1049.7	1052.8	1055.9	1058.9
132.5°	1075.5	1077.5	1079.6	1081.6	1083.6	1085.9	1088.4	1090.9	1093.4	1095.8	1098.8
135°	1140.7	1142.1	1143.6	1145.0	1146.4	1148.3	1150.4	1152.6	1154.8	1156.9	1159.6
137.5°	1196.3	1198.2	1200.1	1202.0	1203.9	1205.4	1206.6	1207.8	1209.0	1210.2	1213.1
140°	1233.1	1234.7	1236.2	1237.8	1239.3	1240.7	1241.7	1242.8	1243.9	1245.0	1247.6
142.5°	1267.5	1269.0	1270.5	1271.9	1273.4	1274.6	1275.4	1276.2	1277.1	1277.9	1280.1
145°	1315.6	1317.3	1319.0	1320.7	1322.4	1323.6	1324.1	1324.6	1325.1	1325.6	1327.0
147.5°	1360.5	1361.7	1362.9	1364.0	1365.2	1366.1	1366.6	1367.1	1367.6	1368.1	1368.9
150°	1388.4	1389.1	1389.9	1390.7	1391.5	1392.1	1392.6	1393.1	1393.7	1394.2	1394.7
152.5°	1413.5	1413.8	1414.2	1414.5	1414.9	1415.2	1415.5	1415.9	1416.2	1416.5	1417.4
155°	1448.8	1448.3	1447.7	1447.2	1446.7	1446.6	1446.8	1447.1	1447.4	1447.6	1448.9
157.5°	1476.2	1476.1	1476.1	1476.0	1476.0	1475.8	1475.6	1475.3	1475.1	1474.8	1476.4
160°	1492.9	1492.7	1492.4	1492.2	1491.9	1491.6	1491.4	1491.1	1490.9	1490.6	1492.2
162.5°	1508.7	1508.1	1507.4	1506.7	1506.0	1505.6	1505.3	1505.1	1504.8	1504.5	1506.3
165°	1527.8	1527.0	1526.2	1525.5	1524.7	1524.2	1523.9	1523.6	1523.4	1523.1	1525.2
167.5°	1542.7	1541.6	1540.6	1539.6	1538.5	1538.0	1538.0	1538.0	1538.0	1538.0	1540.1
170°	1551.0	1550.0	1549.0	1547.9	1546.9	1546.4	1546.4	1546.4	1546.4	1546.4	1548.4
172.5°	1556.6	1555.4	1554.1	1552.9	1551.6	1551.1	1551.3	1551.5	1551.7	1551.9	1554.0
175°	1563.8	1562.5	1561.2	1559.9	1558.6	1558.1	1558.4	1558.6	1558.9	1559.1	1561.0
177.5°	1565.7	1564.6	1563.6	1562.6	1561.5	1561.1	1561.3	1561.5	1561.7	1561.9	1563.6
180°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	72.4	76.1	79.8	82.3	83.4	84.6	85.7	86.8
90°	89.6	94.2	98.7	101.8	103.4	104.9	106.5	108.0
92.5°	89.6	94.7	99.8	102.9	104.2	105.5	106.7	108.0
95°	92.2	97.2	102.2	105.2	106.3	107.3	108.3	109.4
97.5°	90.5	95.6	100.8	104.0	105.3	106.6	107.9	109.2
100°	89.0	94.1	99.2	102.3	103.6	104.9	106.2	107.5
102.5°	107.8	104.3	100.8	99.8	101.3	102.8	104.3	105.8
105°	203.8	161.0	118.2	97.5	99.0	100.4	101.9	103.3
107.5°	436.6	405.8	375.1	343.0	309.4	275.9	242.4	208.8
110°	542.1	536.3	530.5	509.5	473.4	437.3	401.3	365.2



TEST NUMBER: P331904

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	615.6	618.4	621.2	619.1	612.2	605.3	598.5	591.6
115°	701.7	706.8	711.8	715.3	717.2	719.0	720.9	722.7
117.5°	779.2	783.7	788.2	791.0	792.0	793.0	794.0	795.1
120°	830.1	834.6	839.0	841.6	842.3	843.0	843.8	844.5
122.5°	879.8	883.6	887.3	889.6	890.6	891.5	892.4	893.4
125°	949.7	952.4	955.1	957.1	958.3	959.6	960.8	962.1
127.5°	1019.8	1022.7	1025.6	1027.1	1027.3	1027.5	1027.7	1027.8
130°	1061.9	1064.9	1067.9	1069.4	1069.5	1069.6	1069.7	1069.9
132.5°	1101.7	1104.6	1107.5	1109.0	1108.9	1108.9	1108.9	1108.9
135°	1162.2	1164.9	1167.5	1168.7	1168.4	1168.2	1167.9	1167.7
137.5°	1216.0	1218.9	1221.7	1223.2	1223.2	1223.2	1223.2	1223.2
140°	1250.2	1252.8	1255.3	1256.6	1256.6	1256.6	1256.6	1256.6
142.5°	1282.3	1284.5	1286.8	1287.8	1287.6	1287.3	1287.1	1286.9
145°	1328.3	1329.7	1331.0	1331.9	1332.3	1332.7	1333.1	1333.5
147.5°	1369.7	1370.4	1371.2	1371.2	1370.4	1369.6	1368.7	1367.9
150°	1395.2	1395.7	1396.2	1396.2	1395.6	1395.1	1394.5	1393.9
152.5°	1418.3	1419.3	1420.2	1420.1	1418.9	1417.8	1416.6	1415.5
155°	1450.2	1451.5	1452.8	1452.6	1451.1	1449.6	1448.0	1446.5
157.5°	1477.9	1479.4	1481.0	1480.8	1478.8	1476.7	1474.7	1472.7
160°	1493.7	1495.2	1496.8	1496.7	1494.9	1493.1	1491.2	1489.4
162.5°	1508.1	1509.8	1511.6	1511.6	1510.0	1508.4	1506.8	1505.2
165°	1527.3	1529.3	1531.4	1531.5	1529.7	1527.9	1526.1	1524.3
167.5°	1542.1	1544.2	1546.3	1546.3	1544.2	1542.1	1540.1	1538.0
170°	1550.5	1552.6	1554.6	1554.6	1552.6	1550.5	1548.4	1546.4
172.5°	1556.1	1558.1	1560.2	1560.1	1557.8	1555.6	1553.3	1551.0
175°	1562.8	1564.6	1566.4	1566.2	1564.2	1562.1	1560.1	1558.0
177.5°	1565.2	1566.9	1568.5	1568.3	1566.3	1564.2	1562.1	1560.1
180°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8

(END OF REPORT)