

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: P332263-830

Luminaire Tested: **S123RDIP-S340D1025U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332263-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S340D1025U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4723.6 lumens
Efficiency: N/A
Efficacy: 126.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

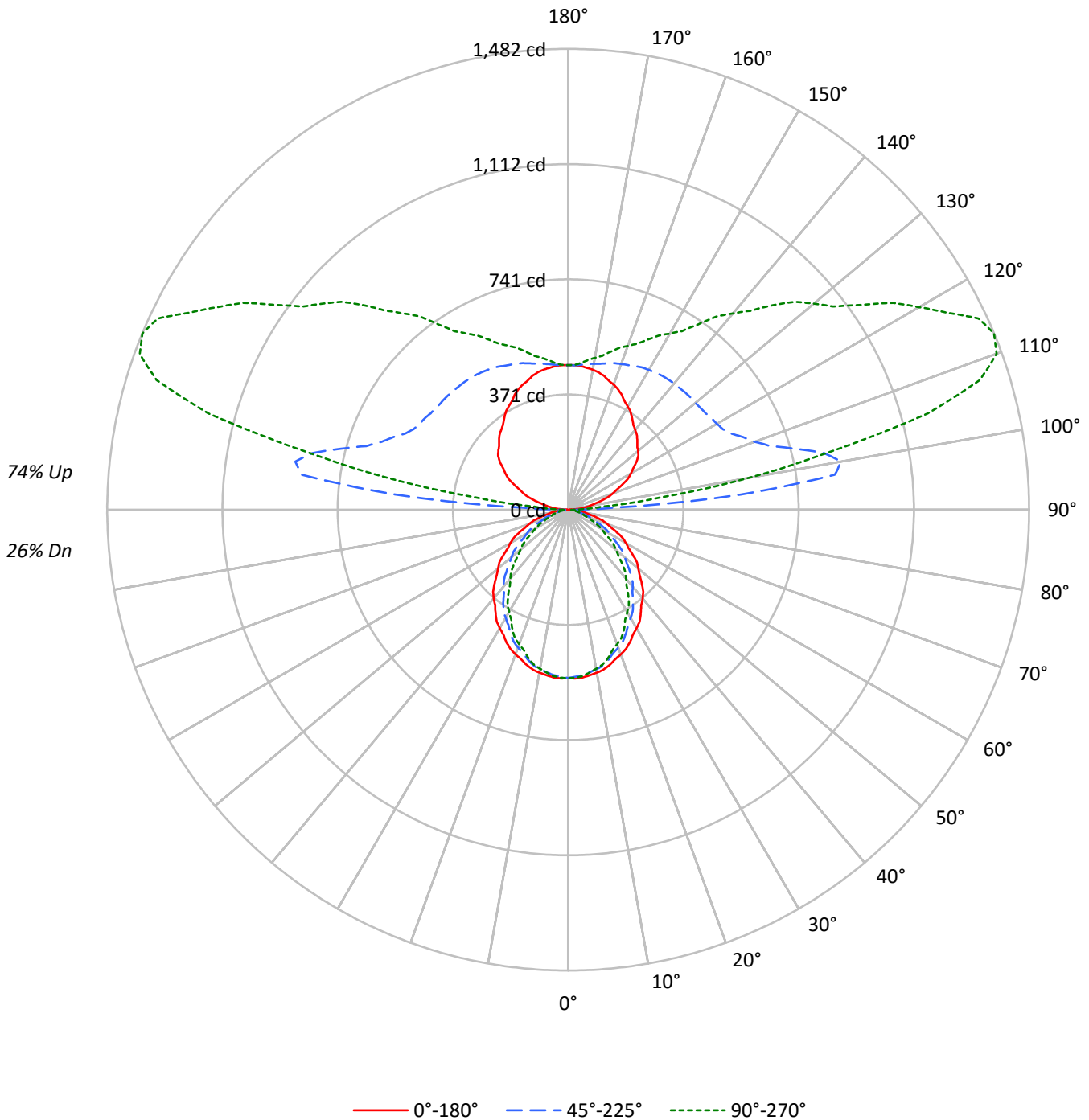
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332263-830

CATALOG NUMBER: S123RDIP-S340D1025U830-4F0-1E-UDD-F4

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	0	
RCR																						
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26				
1	93	88	85	81	82	79	76	73	61	59	58	45	44	43	30	30	29	22				
2	84	77	72	67	75	69	64	60	54	51	48	40	38	36	27	26	25	19				
3	77	68	61	56	68	61	55	50	48	44	40	35	33	31	24	22	21	16				
4	70	60	53	47	63	54	48	43	42	38	34	32	29	26	21	20	18	14				
5	65	54	46	40	57	48	42	37	38	33	30	28	25	23	19	17	16	12				
6	59	48	40	35	53	43	37	32	34	29	26	26	22	20	18	16	14	11				
7	55	43	36	30	49	39	32	28	31	26	23	23	20	18	16	14	13	10				
8	51	39	32	27	45	35	29	24	28	23	20	21	18	16	15	13	11	9				
9	47	36	28	24	42	32	26	22	26	21	18	19	16	14	14	12	10	8				
10	44	32	26	21	39	29	23	19	23	19	16	18	15	13	13	11	9	7				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5829	5829	5829
5°	5851	5770	5804
10°	5818	5698	5678
15°	5756	5565	5506
20°	5669	5399	5271
25°	5582	5211	5044
30°	5464	4994	4721
35°	5344	4778	4427
40°	5233	4523	4061
45°	5087	4271	3731
50°	4928	3985	3361
55°	4763	3659	3016
60°	4613	3309	2637
65°	4419	2932	2259
70°	4173	2458	1825
75°	3818	1938	1718
80°	3403	1717	1574
85°	2878	1519	1408



TEST NUMBER: P332263-830

CATALOG NUMBER: S123RDIP-S340D1025U830-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.9	1.1
10°-20°	141.5	3.0
20°-30°	203.7	4.3
30°-40°	229.5	4.9
40°-50°	219.5	4.6
50°-60°	179.8	3.8
60°-70°	121.3	2.6
70°-80°	61.0	1.3
80°-90°	19.7	0.4
90°-100°	258.6	5.5
100°-110°	732.4	15.5
110°-120°	720.5	15.3
120°-130°	574.7	12.2
130°-140°	453.1	9.6
140°-150°	338.2	7.2
150°-160°	235.7	5.0
160°-170°	138.5	2.9
170°-180°	45.1	1.0
0°-30°	396.1	8.4
0°-40°	625.5	13.2
0°-60°	1024.8	21.7
0°-90°	1226.9	26.0
90°-120°	1711.5	36.2
90°-150°	3077.4	65.2
90°-180°	3497.0	74.0
0°-180°	4723.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	539	534	538	537	51
15°	516	511	499	497	494	145
25°	470	458	439	430	425	216
35°	407	390	364	345	337	254
45°	334	314	281	256	245	258
55°	254	231	195	170	161	228
65°	174	149	115	94	89	172
75°	92	71	47	42	41	98
85°	23	14	12	11	11	26
90°	2	11	24	26	27	3
95°	32	104	558	163	109	35
105°	109	161	756	1323	1197	116
115°	193	240	579	1269	1456	191
125°	268	317	540	978	1148	238
135°	314	375	532	806	930	243
145°	358	411	526	661	727	225
155°	407	439	509	579	603	187
165°	445	458	487	517	526	125
175°	464	464	468	474	473	44
180°	465	465	465	465	465	



TEST NUMBER: P332263-830

CATALOG NUMBER: S123RDIP-S340D1025U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	543.3	542.9	542.6	542.3	542.1	541.4	540.5	539.5	538.6	537.6	538.5
5°	541.5	541.0	540.5	540.1	539.5	538.8	537.5	536.4	535.2	534.0	534.9
7.5°	536.5	535.9	535.5	534.9	534.4	533.4	531.9	530.4	528.8	527.3	527.7
10°	532.3	531.6	530.9	530.3	529.5	528.3	526.6	524.8	523.0	521.3	521.4
12.5°	526.3	525.6	524.8	524.1	523.3	521.8	519.6	517.6	515.4	513.2	513.1
15°	516.5	515.4	514.3	513.2	512.2	510.3	507.6	504.8	502.1	499.4	498.9
17.5°	504.1	502.8	501.6	500.3	499.1	496.7	493.2	489.7	486.4	482.9	481.8
20°	494.9	493.4	491.8	490.3	488.7	486.1	482.4	478.6	474.9	471.3	470.0
22.5°	484.7	483.0	481.2	479.4	477.6	474.8	470.8	466.8	462.9	458.9	457.3
25°	470.0	467.5	465.1	462.6	460.1	456.7	452.2	447.7	443.2	438.8	436.7
27.5°	451.9	449.2	446.5	443.8	441.1	437.3	432.3	427.3	422.3	417.3	414.4
30°	439.6	436.7	433.8	430.8	427.9	423.7	418.2	412.7	407.3	401.8	398.5
32.5°	427.3	424.0	420.7	417.4	414.1	409.5	403.7	397.9	392.2	386.3	382.8
35°	406.7	403.1	399.6	396.2	392.7	387.9	381.8	375.7	369.7	363.6	359.5
37.5°	385.8	381.8	378.0	374.1	370.1	365.0	358.5	352.0	345.6	339.1	334.4
40°	372.4	368.2	363.8	359.6	355.2	349.6	342.7	335.7	328.9	321.9	316.9
42.5°	357.3	353.0	348.7	344.4	340.2	334.4	327.3	320.1	312.9	305.8	300.2
45°	334.2	329.8	325.5	321.0	316.6	310.7	303.2	295.7	288.1	280.6	275.0
47.5°	311.1	306.3	301.4	296.6	291.8	285.7	278.1	270.6	263.2	255.6	249.6
50°	294.3	289.6	285.1	280.5	275.9	269.7	261.7	253.8	245.9	238.0	232.0
52.5°	279.2	274.2	269.2	264.2	259.2	252.8	245.0	237.1	229.3	221.5	215.3
55°	253.8	249.0	244.3	239.5	234.7	228.2	219.9	211.6	203.3	195.0	189.4
57.5°	230.5	225.3	220.1	214.8	209.6	202.8	194.5	186.2	177.9	169.6	164.2
60°	214.3	209.0	203.6	198.2	192.8	186.2	178.0	169.9	161.8	153.7	148.5
62.5°	198.1	192.7	187.4	182.1	176.7	169.9	161.8	153.7	145.6	137.5	132.6
65°	173.5	168.1	162.8	157.4	152.0	145.5	137.9	130.3	122.7	115.1	110.3
67.5°	148.8	143.4	137.9	132.5	127.1	120.7	113.4	106.1	98.8	91.5	87.9
70°	132.6	127.3	122.1	116.8	111.6	105.5	98.7	91.8	85.0	78.1	74.7
72.5°	116.5	111.3	106.1	100.9	95.7	90.0	83.8	77.6	71.4	65.1	62.4
75°	91.8	87.1	82.4	77.8	73.0	68.1	62.7	57.3	51.9	46.6	45.6
77.5°	69.3	65.0	60.8	56.6	52.4	48.5	45.1	41.6	38.2	34.7	34.2
80°	54.9	50.9	46.9	42.9	38.9	35.9	33.8	31.8	29.7	27.7	27.3
82.5°	41.2	37.7	34.3	30.8	27.3	25.2	24.2	23.3	22.3	21.3	21.0
85°	23.3	21.1	18.9	16.9	14.7	13.5	13.2	12.9	12.6	12.3	12.1
87.5°	8.8	8.3	7.8	7.5	7.1	7.0	7.5	8.1	8.7	9.2	9.0
90°	1.9	3.8	5.7	8.5	10.4	12.3	15.1	17.9	20.7	23.6	22.6
92.5°	11.7	17.3	25.3	32.5	40.4	54.4	79.0	119.5	159.2	144.7	109.1
95°	32.0	34.8	45.1	61.2	85.6	122.3	202.3	342.4	496.7	557.9	452.5
97.5°	54.6	55.5	63.6	77.5	101.6	141.3	217.7	375.8	633.0	864.6	925.0
100°	69.7	70.6	77.2	90.3	112.9	149.6	215.5	354.7	602.1	891.0	1076.3
102.5°	85.4	87.1	92.9	105.4	125.7	159.4	218.5	336.6	556.9	842.1	1083.8
105°	109.1	112.0	117.6	128.9	146.8	176.0	226.8	323.7	501.4	756.4	1026.4
107.5°	134.3	137.1	142.6	153.7	170.5	197.6	242.1	322.7	466.1	680.8	926.0
110°	152.4	155.2	159.9	170.3	186.2	212.6	255.0	326.5	452.5	637.9	862.7



TEST NUMBER: P332263-830

CATALOG NUMBER: S123RDIP-S340D1025U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.0	171.8	176.5	186.8	202.8	228.5	267.8	334.0	445.0	609.3	807.8
115°	192.8	196.6	202.3	211.7	227.7	253.1	288.8	346.2	442.1	578.6	741.4
117.5°	216.8	221.1	225.8	234.4	252.3	275.9	311.2	362.4	443.8	560.5	701.3
120°	233.3	236.1	240.8	250.2	268.2	291.6	325.6	374.5	446.9	552.2	680.2
122.5°	247.6	250.4	255.1	265.3	282.5	307.5	340.5	385.8	452.1	547.0	662.9
125°	268.2	270.0	275.7	286.0	303.9	329.3	362.2	403.6	460.1	540.1	640.7
127.5°	283.8	286.5	293.5	304.1	323.9	349.2	381.1	418.3	469.1	536.7	621.1
130°	293.5	296.3	304.8	316.1	335.8	361.3	392.3	428.1	475.1	534.4	610.6
132.5°	301.0	304.6	313.9	327.4	347.1	371.8	402.1	437.2	479.7	533.7	600.8
135°	314.2	318.0	328.4	342.4	362.2	387.6	416.8	448.7	486.4	532.5	588.1
137.5°	326.7	330.6	340.7	355.8	375.4	398.9	427.0	457.4	490.9	530.5	576.9
140°	335.0	339.6	349.0	364.1	383.0	406.4	433.8	461.9	493.9	529.7	570.1
142.5°	343.9	347.9	358.1	371.6	390.4	412.5	439.0	466.5	496.2	528.2	564.1
145°	358.4	361.3	369.8	383.9	399.8	421.5	445.9	471.4	497.7	525.9	556.0
147.5°	373.2	374.8	383.1	395.3	410.8	429.2	451.6	474.4	497.7	522.4	548.1
150°	383.0	383.9	391.3	403.6	416.8	433.8	455.3	475.1	497.7	519.3	542.8
152.5°	392.7	392.9	400.4	411.1	422.8	439.0	457.6	476.6	495.4	515.6	536.9
155°	407.4	407.4	413.0	422.4	432.8	445.9	461.9	477.0	492.9	509.0	527.8
157.5°	419.1	419.8	424.3	432.6	441.4	451.6	464.4	478.0	489.8	503.1	517.6
160°	428.1	428.1	431.9	439.3	445.9	455.3	466.7	478.0	488.3	498.6	510.9
162.5°	434.9	434.9	437.9	443.8	449.7	457.6	467.4	477.2	485.3	494.1	504.1
165°	445.0	444.0	445.9	450.6	454.4	461.0	468.5	475.1	480.8	487.4	494.8
167.5°	452.7	451.6	452.5	456.1	458.7	462.9	468.3	473.6	476.3	480.6	486.1
170°	457.2	455.3	456.3	459.1	461.0	462.9	467.6	471.4	473.3	476.1	480.8
172.5°	460.2	459.1	459.3	461.4	462.5	463.6	467.6	470.6	471.0	472.3	475.5
175°	463.8	462.9	461.9	463.8	463.8	464.8	466.7	468.5	467.6	467.6	469.5
177.5°	465.5	464.8	464.0	464.8	464.8	464.8	465.5	467.0	465.5	464.8	465.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



TEST NUMBER: P332263-830

CATALOG NUMBER: S123RDIP-S340D1025U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	539.3	540.2	541.1	541.4	541.3	541.1	540.9	540.8
5°	535.8	536.7	537.5	537.9	537.7	537.5	537.3	537.2
7.5°	528.3	528.8	529.2	529.3	529.0	528.7	528.3	528.0
10°	521.5	521.6	521.7	521.5	521.0	520.6	520.0	519.5
12.5°	513.1	513.0	513.0	512.6	512.1	511.5	511.0	510.4
15°	498.3	497.9	497.4	496.8	496.2	495.4	494.7	494.1
17.5°	480.8	479.8	478.7	477.7	476.6	475.6	474.7	473.6
20°	468.7	467.4	466.2	465.0	463.7	462.6	461.5	460.2
22.5°	455.8	454.2	452.6	451.3	450.2	449.1	448.0	447.0
25°	434.6	432.6	430.6	429.0	427.9	426.9	425.7	424.7
27.5°	411.6	408.8	406.0	403.7	402.0	400.4	398.8	397.1
30°	395.2	391.9	388.6	386.2	384.6	383.0	381.4	379.8
32.5°	379.1	375.5	371.8	369.2	367.6	366.0	364.3	362.7
35°	355.2	351.0	346.9	343.8	342.1	340.4	338.6	336.9
37.5°	329.6	324.8	320.1	316.6	314.4	312.3	310.1	307.9
40°	311.8	306.7	301.6	297.9	295.7	293.5	291.2	289.0
42.5°	294.6	289.2	283.6	279.8	277.8	275.8	273.8	271.7
45°	269.5	263.9	258.4	254.4	252.1	249.8	247.4	245.1
47.5°	243.5	237.4	231.4	227.3	225.3	223.2	221.0	219.0
50°	225.9	219.9	213.9	209.7	207.5	205.2	202.9	200.7
52.5°	209.0	202.6	196.4	192.3	190.2	188.2	186.2	184.2
55°	183.7	178.0	172.4	168.5	166.6	164.7	162.7	160.7
57.5°	158.8	153.4	148.2	144.6	143.0	141.3	139.7	138.0
60°	143.2	137.9	132.6	129.1	127.5	125.8	124.2	122.5
62.5°	127.6	122.7	117.7	114.3	112.6	110.9	109.1	107.4
65°	105.5	100.8	96.0	93.0	91.9	90.9	89.8	88.7
67.5°	84.4	80.8	77.2	74.8	73.7	72.6	71.4	70.3
70°	71.4	68.0	64.5	62.3	61.2	60.1	59.0	58.0
72.5°	59.6	56.8	54.0	52.4	51.9	51.5	51.1	50.6
75°	44.6	43.6	42.6	42.0	41.8	41.7	41.5	41.3
77.5°	33.6	33.1	32.6	32.2	32.0	31.9	31.7	31.5
80°	27.1	26.8	26.5	26.3	26.0	25.8	25.6	25.4
82.5°	20.7	20.5	20.2	20.0	20.0	19.9	19.9	19.9
85°	11.9	11.7	11.5	11.4	11.4	11.4	11.4	11.4
87.5°	9.1	9.2	9.3	9.6	9.3	9.5	9.6	9.3
90°	23.6	24.5	25.4	27.2	26.3	27.2	28.2	27.2
92.5°	79.2	62.9	55.5	50.6	48.9	46.1	47.0	45.3
95°	338.7	229.6	179.7	145.8	128.0	119.5	112.9	109.1
97.5°	844.3	676.3	554.9	442.3	373.0	330.6	305.2	297.1
100°	1109.3	1033.0	922.9	789.4	694.4	625.7	589.0	589.9
102.5°	1197.3	1194.9	1130.7	1046.0	972.0	917.7	887.0	865.3
105°	1223.0	1317.2	1335.0	1310.6	1267.2	1231.5	1201.5	1196.7
107.5°	1149.0	1301.7	1384.1	1417.7	1418.4	1406.4	1396.2	1387.5
110°	1078.2	1251.3	1369.8	1435.7	1462.1	1469.6	1467.7	1465.8



TEST NUMBER: P332263-830

CATALOG NUMBER: S123RDIP-S340D1025U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1008.1	1185.1	1317.9	1402.6	1450.8	1474.0	1481.2	1481.6
115°	915.4	1079.1	1217.4	1319.9	1390.5	1431.9	1450.8	1455.5
117.5°	848.3	989.6	1113.7	1217.8	1291.4	1338.8	1365.9	1372.2
120°	812.8	939.9	1052.8	1147.8	1222.1	1274.8	1297.4	1303.1
122.5°	785.0	900.0	1004.7	1092.9	1159.0	1206.4	1231.1	1238.3
125°	748.0	850.6	940.8	1016.1	1076.3	1117.7	1141.2	1147.8
127.5°	715.6	807.0	888.5	957.0	1010.6	1046.0	1067.2	1073.3
130°	695.3	780.0	856.1	920.1	970.0	1003.9	1023.6	1031.1
132.5°	676.5	754.3	825.3	886.3	933.1	967.0	984.5	989.8
135°	651.0	717.8	779.0	832.6	878.7	906.9	923.9	930.5
137.5°	627.9	682.7	735.4	781.8	820.6	849.2	863.5	867.8
140°	614.3	662.3	707.5	748.0	783.7	810.0	825.1	824.2
142.5°	601.5	642.8	681.9	717.1	747.6	770.9	784.5	783.5
145°	586.2	617.2	647.2	674.6	698.0	717.8	725.4	727.3
147.5°	573.5	598.1	622.5	641.9	659.7	673.1	680.2	681.0
150°	564.5	586.2	605.9	623.8	637.9	648.2	653.8	653.8
152.5°	556.2	574.9	592.4	607.2	618.3	627.9	631.3	631.3
155°	543.8	558.8	573.0	584.3	592.8	600.2	602.1	603.0
157.5°	530.7	543.2	554.1	563.0	570.3	576.0	577.5	577.3
160°	523.1	533.5	542.8	549.4	556.0	561.7	561.7	560.7
162.5°	514.1	522.9	531.6	537.4	541.8	546.6	546.6	545.6
165°	502.4	508.0	514.6	519.3	523.1	526.9	525.9	525.9
167.5°	492.2	496.5	500.3	503.7	505.4	508.0	507.1	507.1
170°	485.5	488.3	492.0	493.9	494.8	496.7	495.8	495.8
172.5°	479.5	481.5	484.6	485.7	485.9	487.8	486.1	485.3
175°	471.4	472.3	474.2	474.2	474.2	475.1	474.2	473.3
177.5°	466.3	467.0	467.8	467.8	467.0	467.8	466.3	466.3
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8

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