

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: P332267-840

Luminaire Tested: **S123RDIP-S340D1195U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332267-840
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: S123RDIP-S340D1195U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6131.0 lumens
Efficiency: N/A
Efficacy: 145.3 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

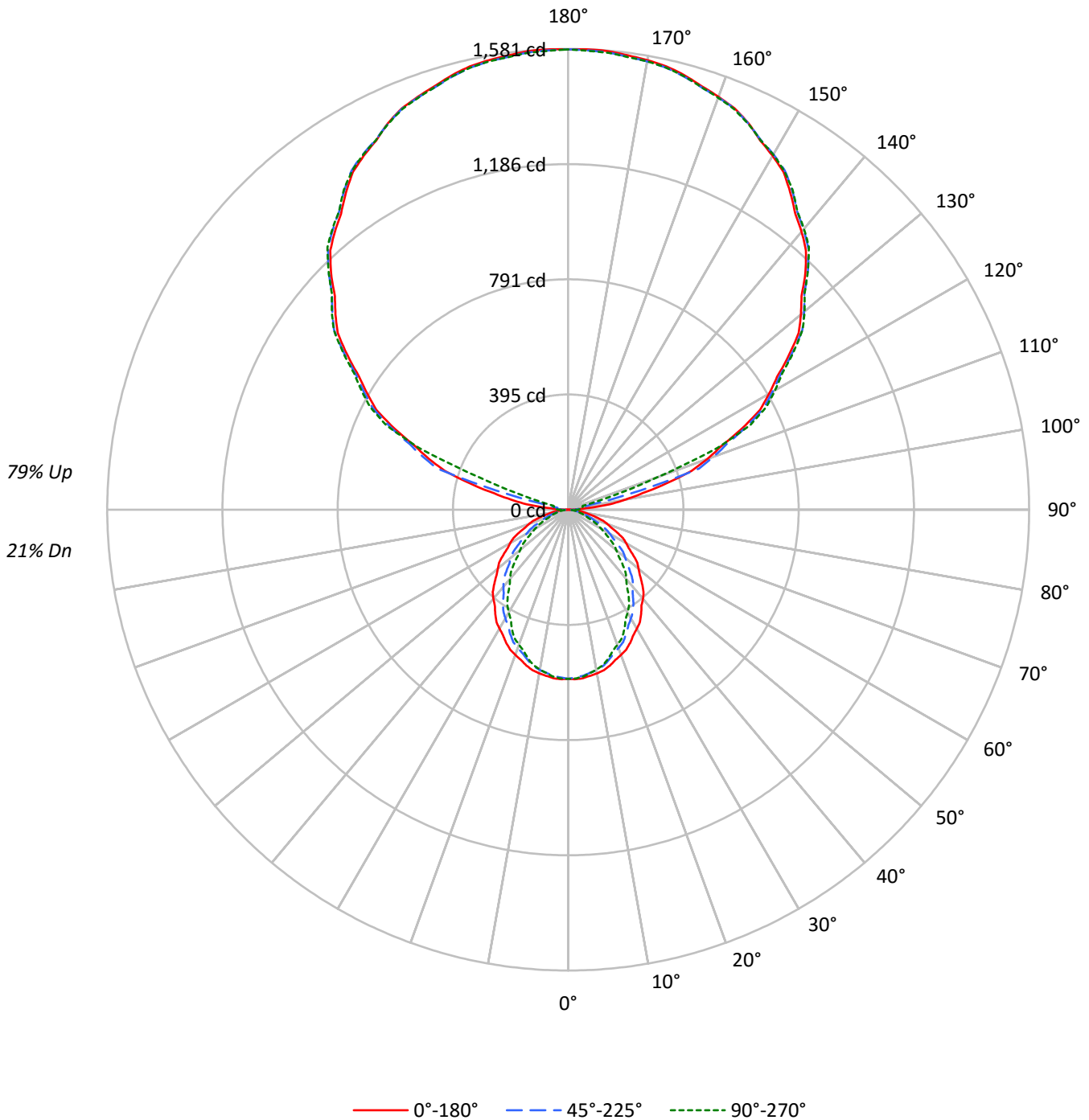
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	87	84	80	81	78	75	72	59	57	55	42	41	40	27	26	25	18
2	83	76	71	66	74	68	63	59	52	49	46	37	35	33	24	22	22	16
3	76	67	60	55	67	60	54	49	46	42	39	33	30	28	21	20	18	13
4	70	59	52	46	61	53	47	42	41	36	33	29	27	24	19	17	16	12
5	64	53	45	40	56	47	41	36	36	32	28	26	23	21	17	15	14	10
6	59	47	40	34	52	42	36	31	33	28	25	24	21	18	15	14	12	9
7	54	42	35	30	48	38	32	27	29	25	22	21	18	16	14	12	11	8
8	50	38	31	26	44	34	28	24	27	22	19	20	17	14	13	11	10	7
9	46	35	28	23	41	31	25	21	24	20	17	18	15	13	12	10	9	6
10	43	32	25	20	38	29	23	19	22	18	15	17	14	12	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6245	6245	6245
5°	6269	6183	6218
10°	6233	6105	6084
15°	6167	5962	5899
20°	6074	5783	5648
25°	5980	5583	5404
30°	5854	5351	5059
35°	5727	5119	4742
40°	5606	4846	4350
45°	5451	4576	3997
50°	5280	4270	3600
55°	5104	3920	3232
60°	4943	3546	2827
65°	4735	3140	2420
70°	4472	2634	1954
75°	4092	2075	1838
80°	3645	1841	1692
85°	3075	1618	1507



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	0.9
10°-20°	151.6	2.5
20°-30°	218.3	3.6
30°-40°	245.9	4.0
40°-50°	235.2	3.8
50°-60°	192.6	3.1
60°-70°	130.0	2.1
70°-80°	65.4	1.1
80°-90°	21.7	0.4
90°-100°	57.4	0.9
100°-110°	273.6	4.5
110°-120°	657.3	10.7
120°-130°	837.0	13.7
130°-140°	894.3	14.6
140°-150°	836.3	13.6
150°-160°	674.6	11.0
160°-170°	435.4	7.1
170°-180°	150.0	2.4
0°-30°	424.3	6.9
0°-40°	670.2	10.9
0°-60°	1098.1	17.9
0°-90°	1315.1	21.4
90°-120°	988.3	16.1
90°-150°	3555.9	58.0
90°-180°	4816.0	78.6
0°-180°	6131.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	580	578	572	576	576	55
15°	553	548	535	533	529	156
25°	504	491	470	460	455	231
35°	436	418	390	370	361	273
45°	358	336	301	275	263	276
55°	272	248	209	183	172	244
65°	186	159	123	101	95	184
75°	98	76	50	45	44	105
85°	25	15	13	12	12	28
90°	1	13	28	33	35	5
95°	72	27	36	44	44	88
105°	350	356	257	61	52	371
115°	656	663	674	685	690	647
125°	924	934	939	941	943	825
135°	1151	1158	1163	1166	1163	886
145°	1328	1336	1339	1341	1341	831
155°	1463	1461	1462	1467	1461	674
165°	1543	1539	1538	1547	1539	436
175°	1579	1574	1574	1582	1573	150
180°	1579	1579	1579	1579	1579	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	582.1	581.7	581.4	581.1	580.8	580.1	579.1	578.0	577.0	576.0	576.9
5°	580.2	579.7	579.2	578.7	578.0	577.2	575.9	574.7	573.4	572.2	573.1
7.5°	574.8	574.2	573.7	573.1	572.6	571.5	569.9	568.3	566.5	564.9	565.4
10°	570.3	569.6	568.9	568.2	567.3	566.0	564.2	562.3	560.4	558.6	558.7
12.5°	563.9	563.1	562.3	561.5	560.7	559.1	556.7	554.5	552.2	549.9	549.8
15°	553.4	552.2	551.1	549.9	548.8	546.7	543.8	540.9	538.0	535.0	534.5
17.5°	540.1	538.8	537.5	536.0	534.7	532.2	528.5	524.7	521.1	517.4	516.2
20°	530.3	528.7	526.9	525.3	523.6	520.8	516.8	512.8	508.9	504.9	503.5
22.5°	519.4	517.5	515.5	513.6	511.7	508.7	504.4	500.2	495.9	491.7	490.0
25°	503.5	500.9	498.3	495.6	493.0	489.3	484.5	479.7	474.8	470.1	467.9
27.5°	484.2	481.3	478.4	475.5	472.6	468.6	463.2	457.8	452.4	447.1	444.0
30°	471.0	467.9	464.7	461.6	458.5	453.9	448.1	442.2	436.4	430.5	427.0
32.5°	457.9	454.2	450.7	447.2	443.6	438.8	432.5	426.4	420.2	413.9	410.1
35°	435.8	431.9	428.2	424.4	420.7	415.6	409.1	402.5	396.1	389.6	385.2
37.5°	413.3	409.1	405.0	400.8	396.6	391.0	384.2	377.2	370.3	363.3	358.3
40°	399.0	394.5	389.8	385.3	380.6	374.6	367.2	359.7	352.3	344.9	339.5
42.5°	382.8	378.2	373.7	369.0	364.5	358.3	350.6	343.0	335.3	327.6	321.6
45°	358.1	353.4	348.7	344.0	339.2	332.9	324.9	316.8	308.7	300.6	294.7
47.5°	333.4	328.2	323.0	317.8	312.7	306.1	298.0	289.9	282.0	273.9	267.4
50°	315.3	310.3	305.5	300.5	295.6	288.9	280.4	272.0	263.5	255.0	248.5
52.5°	299.1	293.8	288.4	283.1	277.7	270.8	262.5	254.1	245.7	237.3	230.7
55°	272.0	266.8	261.8	256.6	251.5	244.5	235.6	226.7	217.8	208.9	202.9
57.5°	246.9	241.4	235.8	230.1	224.6	217.3	208.4	199.4	190.6	181.7	175.9
60°	229.6	223.9	218.1	212.4	206.6	199.4	190.8	182.1	173.4	164.7	159.1
62.5°	212.3	206.5	200.8	195.1	189.3	182.1	173.4	164.7	156.0	147.3	142.1
65°	185.9	180.2	174.4	168.6	162.9	155.9	147.7	139.6	131.5	123.3	118.2
67.5°	159.5	153.6	147.7	142.0	136.1	129.4	121.5	113.7	105.8	98.1	94.2
70°	142.1	136.4	130.8	125.1	119.6	113.0	105.7	98.4	91.1	83.7	80.1
72.5°	124.8	119.3	113.7	108.1	102.5	96.4	89.8	83.1	76.4	69.8	66.9
75°	98.4	93.3	88.3	83.3	78.3	72.9	67.2	61.4	55.6	49.9	48.9
77.5°	74.2	69.7	65.1	60.6	56.1	52.0	48.3	44.5	40.9	37.2	36.7
80°	58.8	54.5	50.3	45.9	41.7	38.5	36.3	34.0	31.8	29.7	29.3
82.5°	44.1	40.4	36.8	33.0	29.3	27.0	26.0	24.9	23.9	22.8	22.5
85°	24.9	22.6	20.3	18.1	15.8	14.4	14.1	13.8	13.5	13.1	12.9
87.5°	9.3	8.9	8.5	8.1	7.7	7.8	8.5	9.2	9.9	10.5	10.6
90°	1.2	3.7	6.4	9.0	11.6	14.6	18.0	21.4	24.7	28.2	29.2
92.5°	21.8	21.1	20.4	19.6	18.9	19.8	22.4	24.9	27.5	30.0	31.7
95°	71.6	60.9	50.2	39.5	28.8	24.9	27.8	30.6	33.5	36.4	38.2
97.5°	143.8	139.1	134.2	129.5	124.6	112.9	94.1	75.3	56.6	37.8	39.9
100°	198.2	203.5	208.7	213.9	219.1	201.4	160.8	120.1	79.4	38.7	40.8
102.5°	260.2	264.0	267.7	271.5	275.3	254.9	210.5	166.0	121.6	77.2	70.7
105°	349.6	352.5	355.4	358.2	361.1	350.8	327.3	303.9	280.4	256.9	210.8
107.5°	443.9	446.3	448.6	450.8	453.1	456.2	459.9	463.5	467.3	471.0	437.1
110°	506.9	509.0	511.0	513.1	515.2	517.7	520.6	523.4	526.2	529.2	520.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	566.9	568.8	570.7	572.6	574.4	576.8	579.7	582.6	585.4	588.2	588.4
115°	655.9	657.4	658.9	660.6	662.1	664.1	666.4	668.7	671.2	673.5	676.1
117.5°	741.9	743.9	745.8	747.8	749.7	751.2	752.5	753.7	754.9	756.1	758.1
120°	795.5	797.8	800.2	802.5	804.9	806.5	807.2	808.0	808.8	809.5	811.6
122.5°	849.9	851.8	853.7	855.7	857.7	859.1	860.1	861.1	862.0	863.0	864.5
125°	924.5	926.7	928.7	930.8	932.9	934.4	935.4	936.5	937.6	938.6	939.2
127.5°	996.8	998.9	1001.0	1003.1	1005.1	1006.8	1008.0	1009.4	1010.6	1011.8	1012.7
130°	1041.9	1044.0	1046.0	1048.1	1050.2	1051.8	1052.8	1053.9	1054.9	1055.9	1057.0
132.5°	1085.0	1087.1	1089.2	1091.3	1093.4	1094.8	1095.7	1096.5	1097.3	1098.2	1099.2
135°	1150.9	1152.6	1154.1	1155.7	1157.2	1158.5	1159.6	1160.6	1161.6	1162.8	1163.5
137.5°	1207.3	1209.3	1211.2	1213.3	1215.3	1216.5	1217.1	1217.7	1218.2	1218.8	1220.0
140°	1244.9	1246.4	1248.0	1249.5	1251.1	1252.2	1253.0	1253.8	1254.7	1255.4	1256.5
142.5°	1279.6	1281.1	1282.7	1284.2	1285.9	1287.0	1287.8	1288.6	1289.4	1290.1	1291.0
145°	1328.2	1330.0	1331.8	1333.6	1335.4	1336.7	1337.2	1337.7	1338.2	1338.7	1339.2
147.5°	1373.9	1375.1	1376.3	1377.5	1378.7	1379.6	1380.1	1380.6	1381.1	1381.6	1382.2
150°	1402.1	1402.8	1403.6	1404.4	1405.2	1405.8	1406.3	1406.8	1407.4	1408.0	1408.5
152.5°	1427.4	1427.7	1428.2	1428.5	1428.9	1429.2	1429.5	1429.9	1430.2	1430.5	1431.4
155°	1463.1	1462.6	1462.0	1461.5	1461.0	1460.9	1461.1	1461.4	1461.7	1461.9	1463.2
157.5°	1490.8	1490.7	1490.7	1490.6	1490.6	1490.4	1490.2	1489.9	1489.7	1489.3	1491.0
160°	1507.6	1507.4	1507.1	1506.9	1506.6	1506.3	1506.1	1505.8	1505.6	1505.3	1506.9
162.5°	1523.6	1523.0	1522.3	1521.6	1520.9	1520.5	1520.1	1519.9	1519.6	1519.3	1521.2
165°	1542.9	1542.1	1541.3	1540.5	1539.7	1539.2	1538.9	1538.6	1538.4	1538.1	1540.2
167.5°	1557.9	1556.8	1555.8	1554.8	1553.7	1553.2	1553.2	1553.2	1553.2	1553.2	1555.3
170°	1566.3	1565.3	1564.3	1563.2	1562.2	1561.7	1561.7	1561.7	1561.7	1561.7	1563.7
172.5°	1572.0	1570.7	1569.4	1568.2	1566.9	1566.4	1566.6	1566.8	1567.0	1567.2	1569.3
175°	1579.2	1577.9	1576.6	1575.3	1574.0	1573.5	1573.8	1574.0	1574.3	1574.5	1576.4
177.5°	1581.1	1580.0	1579.0	1578.0	1576.9	1576.5	1576.7	1576.9	1577.1	1577.3	1579.0
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	577.8	578.8	579.8	580.1	580.0	579.8	579.6	579.5
5°	574.1	575.0	575.9	576.3	576.1	575.9	575.7	575.5
7.5°	566.0	566.5	567.0	567.1	566.7	566.4	566.0	565.7
10°	558.8	558.9	559.0	558.8	558.3	557.7	557.1	556.6
12.5°	549.8	549.7	549.7	549.3	548.7	548.1	547.4	546.8
15°	533.9	533.4	532.9	532.3	531.6	530.8	530.1	529.4
17.5°	515.1	514.0	512.9	511.8	510.7	509.6	508.6	507.5
20°	502.2	500.8	499.5	498.2	496.9	495.6	494.4	493.1
22.5°	488.4	486.7	484.9	483.5	482.3	481.2	480.0	478.9
25°	465.6	463.5	461.3	459.6	458.5	457.4	456.2	455.0
27.5°	441.0	438.0	434.9	432.5	430.7	429.0	427.3	425.5
30°	423.4	419.9	416.4	413.7	412.0	410.4	408.7	407.0
32.5°	406.2	402.3	398.4	395.6	393.8	392.1	390.3	388.6
35°	380.6	376.1	371.6	368.4	366.6	364.7	362.7	360.9
37.5°	353.1	348.0	343.0	339.2	336.9	334.6	332.2	329.9
40°	334.1	328.6	323.2	319.2	316.8	314.5	312.0	309.6
42.5°	315.7	309.8	303.9	299.8	297.6	295.5	293.4	291.1
45°	288.7	282.8	276.8	272.6	270.1	267.6	265.1	262.6
47.5°	260.8	254.4	247.9	243.6	241.4	239.1	236.8	234.6
50°	242.1	235.6	229.1	224.7	222.3	219.8	217.4	215.0
52.5°	223.9	217.1	210.5	206.0	203.8	201.7	199.5	197.3
55°	196.8	190.8	184.7	180.6	178.5	176.4	174.3	172.2
57.5°	170.2	164.4	158.8	154.9	153.2	151.4	149.7	147.8
60°	153.4	147.7	142.1	138.4	136.6	134.8	133.1	131.3
62.5°	136.7	131.5	126.1	122.5	120.7	118.9	116.9	115.1
65°	113.0	108.0	102.8	99.7	98.5	97.4	96.2	95.0
67.5°	90.4	86.5	82.7	80.2	79.0	77.8	76.5	75.3
70°	76.4	72.8	69.1	66.8	65.5	64.4	63.2	62.1
72.5°	63.8	60.9	57.9	56.1	55.6	55.1	54.7	54.2
75°	47.8	46.8	45.6	45.0	44.8	44.6	44.4	44.2
77.5°	36.1	35.4	34.9	34.5	34.3	34.1	33.9	33.7
80°	29.0	28.7	28.4	28.2	27.9	27.7	27.5	27.3
82.5°	22.2	21.9	21.6	21.4	21.4	21.3	21.3	21.3
85°	12.7	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	10.8	10.9	11.0	11.1	11.1	11.1	11.2	11.2
90°	30.2	31.3	32.3	33.1	33.6	34.1	34.6	35.2
92.5°	33.3	35.0	36.8	37.7	38.0	38.4	38.7	39.0
95°	40.0	41.8	43.6	44.5	44.5	44.5	44.5	44.5
97.5°	41.9	44.0	46.2	47.3	47.6	47.9	48.1	48.4
100°	42.9	44.9	47.1	48.3	48.5	48.8	49.0	49.3
102.5°	64.2	57.8	51.3	48.4	48.8	49.3	49.8	50.2
105°	164.6	118.5	72.3	49.6	50.1	50.6	51.1	51.6
107.5°	403.2	369.4	335.6	301.2	266.5	231.7	196.9	162.2
110°	511.9	503.3	494.7	471.8	434.5	397.2	359.9	322.7



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CATALOG NUMBER: S123RDIP-S340D1195U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	588.5	588.8	589.0	585.0	577.1	569.3	561.4	553.5
115°	678.6	681.3	683.9	685.7	686.7	687.8	688.8	689.8
117.5°	760.2	762.3	764.4	765.6	765.8	766.0	766.2	766.4
120°	813.7	815.8	817.9	818.9	818.9	818.9	818.9	818.9
122.5°	866.0	867.5	868.9	869.7	869.9	870.1	870.4	870.6
125°	939.7	940.2	940.7	941.2	941.7	942.3	942.8	943.3
127.5°	1013.5	1014.3	1015.1	1015.3	1014.8	1014.3	1013.8	1013.2
130°	1058.0	1059.0	1060.2	1060.4	1059.9	1059.3	1058.8	1058.3
132.5°	1100.2	1101.4	1102.4	1102.5	1101.8	1101.1	1100.3	1099.5
135°	1164.3	1165.1	1165.9	1165.9	1165.1	1164.3	1163.5	1162.8
137.5°	1221.3	1222.5	1223.8	1224.2	1223.7	1223.1	1222.6	1222.0
140°	1257.5	1258.5	1259.6	1259.8	1259.3	1258.8	1258.3	1257.8
142.5°	1291.8	1292.6	1293.4	1293.5	1292.8	1292.0	1291.3	1290.6
145°	1339.8	1340.3	1340.8	1341.0	1341.0	1341.0	1341.0	1341.0
147.5°	1382.7	1383.2	1383.7	1383.4	1382.2	1381.0	1379.8	1378.6
150°	1409.0	1409.5	1410.0	1409.9	1409.1	1408.4	1407.5	1406.7
152.5°	1432.3	1433.3	1434.2	1434.1	1432.9	1431.7	1430.5	1429.3
155°	1464.5	1465.8	1467.1	1466.9	1465.4	1463.9	1462.3	1460.8
157.5°	1492.5	1494.0	1495.6	1495.4	1493.4	1491.3	1489.2	1487.2
160°	1508.4	1510.0	1511.6	1511.5	1509.6	1507.8	1505.9	1504.1
162.5°	1523.0	1524.7	1526.5	1526.5	1524.9	1523.3	1521.7	1520.0
165°	1542.4	1544.4	1546.5	1546.6	1544.8	1543.0	1541.2	1539.3
167.5°	1557.3	1559.4	1561.6	1561.6	1559.4	1557.3	1555.3	1553.2
170°	1565.8	1567.9	1569.9	1569.9	1567.9	1565.8	1563.7	1561.7
172.5°	1571.5	1573.5	1575.6	1575.5	1573.2	1570.9	1568.6	1566.3
175°	1578.2	1580.0	1581.9	1581.7	1579.6	1577.5	1575.5	1573.4
177.5°	1580.6	1582.4	1584.0	1583.8	1581.8	1579.6	1577.5	1575.5
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2

(END OF REPORT)