

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: P332525

Luminaire Tested: **S124DIP-S350D1035U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

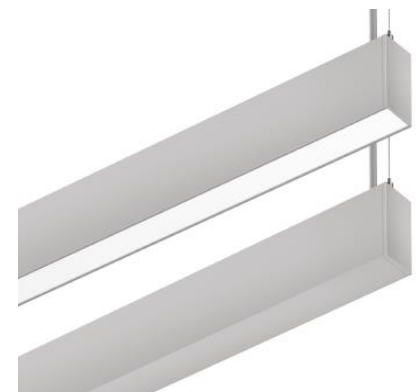
Test Information

Test Method: LM-79-08
Report Number: P332525
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D1035U835-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5214.3 lumens
Efficiency: N/A
Efficacy: 139.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

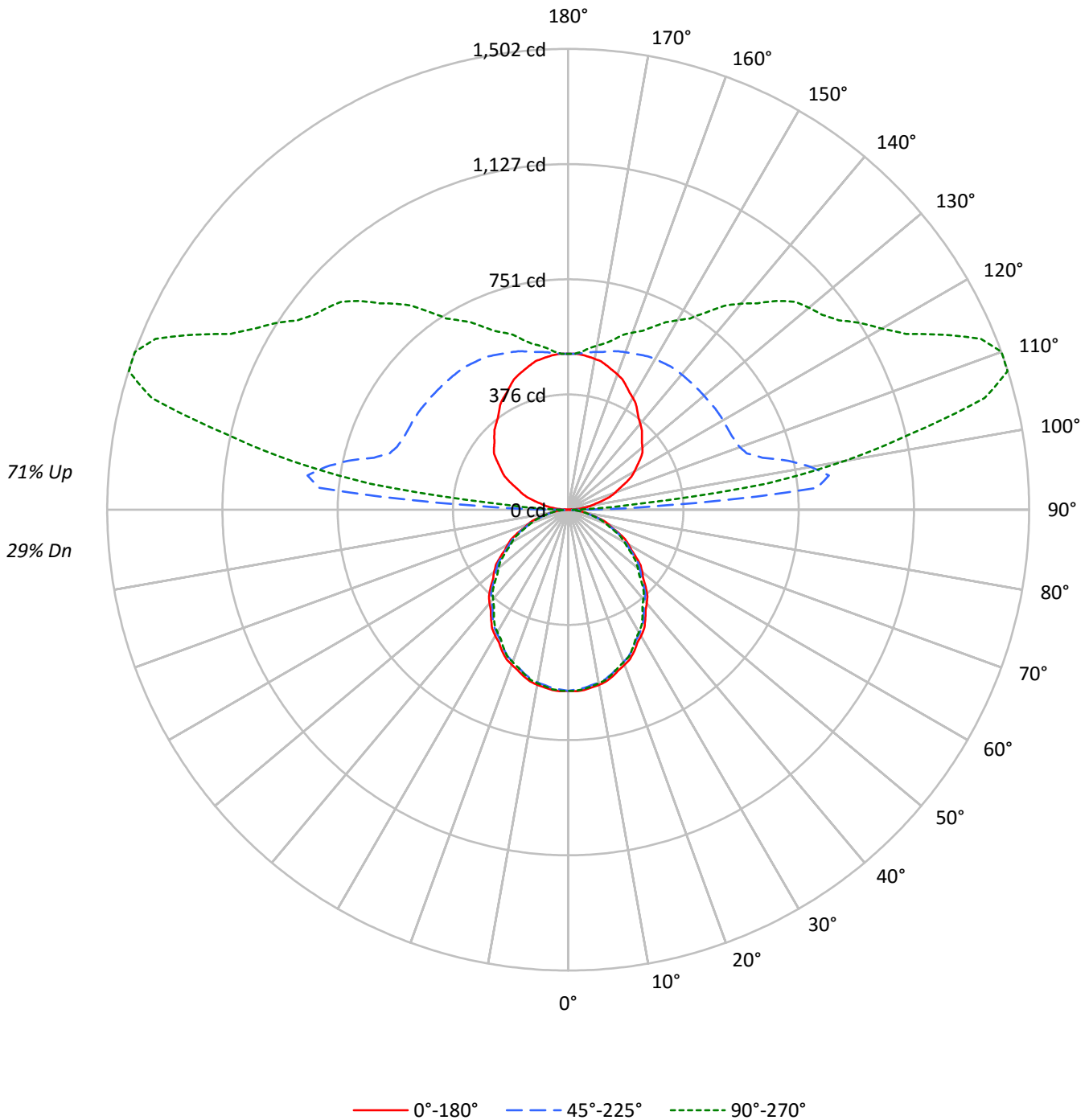
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332525

CATALOG NUMBER: S124DIP-S350D1035U835-4F0-1E-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	0
RCR																		
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	44	33	32	31	24
2	85	78	72	67	76	70	65	60	55	51	48	41	39	37	29	27	26	20
3	77	68	61	55	69	61	55	50	48	44	41	36	34	31	25	24	22	17
4	71	60	53	47	63	54	48	43	43	38	35	32	29	27	23	21	19	15
5	65	53	46	40	58	48	41	36	38	33	30	29	26	23	20	18	17	13
6	59	48	40	34	53	43	36	31	34	29	26	26	23	20	18	16	15	11
7	55	43	35	30	49	39	32	27	31	26	23	24	20	18	17	15	13	10
8	51	39	31	26	45	35	29	24	28	23	20	22	18	16	15	13	12	9
9	47	35	28	23	42	32	26	21	26	21	18	20	16	14	14	12	10	8
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4769	4769	4769
5°	4783	4725	4760
10°	4753	4687	4710
15°	4695	4621	4633
20°	4619	4538	4542
25°	4532	4444	4431
30°	4426	4333	4294
35°	4315	4217	4161
40°	4200	4086	4011
45°	4080	3956	3881
50°	3947	3841	3721
55°	3804	3690	3571
60°	3660	3523	3416
65°	3500	3364	3228
70°	3319	3151	3028
75°	3041	2895	2820
80°	2706	2599	2529
85°	2371	2279	2232



TEST NUMBER: P332525

CATALOG NUMBER: S124DIP-S350D1035U835-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.6	1.1
10°-20°	156.7	3.0
20°-30°	230.7	4.4
30°-40°	268.2	5.1
40°-50°	268.2	5.1
50°-60°	234.6	4.5
60°-70°	174.2	3.3
70°-80°	99.0	1.9
80°-90°	31.4	0.6
90°-100°	367.0	7.0
100°-110°	763.9	14.6
110°-120°	684.2	13.1
120°-130°	575.5	11.0
130°-140°	479.9	9.2
140°-150°	366.6	7.0
150°-160°	257.7	4.9
160°-170°	151.6	2.9
170°-180°	49.3	0.9
0°-30°	443.1	8.5
0°-40°	711.3	13.6
0°-60°	1214.1	23.3
0°-90°	1518.7	29.1
90°-120°	1815.1	34.8
90°-150°	3237.1	62.1
90°-180°	3696.0	70.9
0°-180°	5214.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	590	588	583	588	587	56
15°	562	560	553	555	554	158
25°	509	505	499	499	498	234
35°	438	434	428	425	422	274
45°	357	354	346	342	340	275
55°	270	269	262	257	254	242
65°	183	181	176	172	169	181
75°	98	95	93	91	90	104
85°	26	26	25	25	24	28
90°	1	8	18	20	21	3
95°	33	104	814	403	244	37
105°	117	169	655	1410	1405	125
115°	206	258	584	1122	1349	204
125°	286	340	581	955	1076	255
135°	340	405	576	848	962	263
145°	392	449	573	715	786	246
155°	446	482	557	631	658	206
165°	486	501	534	566	574	137
175°	507	508	512	519	517	48
180°	508	508	508	508	508	



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CATALOG NUMBER: S124DIP-S350D1035U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	592.2	592.0	591.7	591.5	591.2	590.6	589.7	588.8	587.9	586.9	587.8
5°	590.2	589.8	589.4	589.0	588.6	587.8	586.6	585.5	584.3	583.1	584.3
7.5°	584.8	584.3	583.9	583.5	583.1	582.2	580.9	579.7	578.4	577.1	578.0
10°	579.8	579.4	579.0	578.6	578.2	577.3	575.9	574.5	573.2	571.8	572.6
12.5°	573.4	573.0	572.6	572.1	571.7	570.8	569.3	567.9	566.4	565.0	565.9
15°	561.8	561.4	561.0	560.6	560.2	559.2	557.6	556.0	554.4	552.9	553.5
17.5°	547.9	547.4	546.9	546.4	545.8	544.8	543.3	541.8	540.3	538.8	539.2
20°	537.7	537.2	536.7	536.1	535.6	534.6	533.0	531.4	529.8	528.2	528.6
22.5°	526.7	526.0	525.3	524.6	523.9	522.8	521.2	519.7	518.1	516.5	517.1
25°	508.8	508.1	507.4	506.6	505.9	504.8	503.3	501.8	500.4	498.9	499.0
27.5°	488.4	487.6	486.9	486.1	485.4	484.3	482.9	481.6	480.2	478.8	478.6
30°	474.8	473.9	473.1	472.2	471.4	470.3	468.9	467.5	466.2	464.8	464.4
32.5°	460.4	459.6	458.8	458.1	457.3	456.2	454.8	453.3	451.9	450.4	449.9
35°	437.8	437.1	436.4	435.6	434.9	433.8	432.3	430.8	429.4	427.9	427.2
37.5°	414.1	413.4	412.7	412.1	411.4	410.3	408.7	407.1	405.5	403.9	403.1
40°	398.5	397.7	396.9	396.0	395.2	394.0	392.4	390.8	389.2	387.7	386.6
42.5°	381.9	381.4	380.9	380.4	379.9	378.7	377.0	375.2	373.5	371.8	370.5
45°	357.4	356.6	355.9	355.2	354.4	353.2	351.5	349.8	348.2	346.5	345.3
47.5°	331.7	331.2	330.7	330.2	329.7	328.7	327.1	325.5	324.0	322.4	321.1
50°	314.3	313.9	313.5	313.0	312.6	311.7	310.2	308.7	307.2	305.8	304.3
52.5°	297.3	296.7	296.2	295.7	295.2	294.2	292.6	291.1	289.5	288.0	286.7
55°	270.3	270.0	269.6	269.3	269.0	268.1	266.6	265.2	263.7	262.2	261.0
57.5°	244.5	244.2	243.8	243.5	243.1	242.2	240.7	239.3	237.8	236.4	235.2
60°	226.7	226.2	225.7	225.1	224.6	223.7	222.3	220.9	219.6	218.2	217.3
62.5°	209.3	208.9	208.4	208.0	207.5	206.6	205.1	203.7	202.2	200.8	199.9
65°	183.2	182.7	182.1	181.6	181.1	180.3	179.2	178.2	177.1	176.1	175.0
67.5°	156.9	156.4	155.9	155.4	154.9	154.2	153.2	152.2	151.2	150.1	149.1
70°	140.6	139.8	139.1	138.4	137.6	136.8	136.0	135.2	134.3	133.5	132.6
72.5°	123.2	122.4	121.7	121.0	120.2	119.5	118.8	118.2	117.5	116.8	116.1
75°	97.5	97.0	96.5	95.9	95.4	94.9	94.4	93.8	93.3	92.8	92.4
77.5°	73.0	72.8	72.5	72.3	72.1	71.7	71.3	70.8	70.3	69.9	69.7
80°	58.2	57.9	57.6	57.3	57.0	56.7	56.5	56.3	56.1	55.9	55.6
82.5°	43.8	43.7	43.5	43.4	43.2	43.1	43.1	43.1	43.0	43.0	42.9
85°	25.6	25.6	25.6	25.6	25.6	25.5	25.2	25.0	24.8	24.6	24.6
87.5°	10.0	10.4	10.9	11.0	11.1	11.0	12.1	12.1	12.4	12.7	12.5
90°	1.0	3.0	6.0	7.0	8.0	8.0	14.0	14.0	16.0	18.0	17.0
92.5°	11.4	16.6	26.0	38.1	52.7	73.5	124.2	201.7	277.1	316.7	263.8
95°	32.9	35.9	45.9	58.9	82.9	124.8	211.6	375.4	614.0	813.6	836.6
97.5°	59.1	59.1	67.7	79.7	100.2	135.4	202.3	337.4	574.6	856.9	1051.0
100°	75.9	75.9	82.9	94.8	113.8	145.8	204.7	317.5	521.1	802.6	1058.2
102.5°	91.8	93.4	99.6	110.8	129.0	159.3	212.6	311.9	485.2	734.8	998.3
105°	116.8	119.8	124.8	136.8	154.7	183.7	231.6	314.5	454.2	654.9	889.5
107.5°	144.4	146.4	151.3	164.1	181.3	209.8	253.8	329.2	448.6	610.2	801.6
110°	162.7	164.7	169.7	181.7	199.7	226.6	270.5	340.4	450.2	595.0	757.7



TEST NUMBER: P332525

CATALOG NUMBER: S124DIP-S350D1035U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	180.3	182.3	188.1	199.3	217.2	244.2	286.5	352.4	455.0	587.8	733.0
115°	205.7	208.6	215.6	225.6	244.6	271.5	311.5	371.4	464.2	584.0	709.8
117.5°	232.0	234.8	241.0	252.0	269.7	297.7	335.6	390.7	474.0	583.0	699.4
120°	249.6	251.6	258.6	269.5	286.5	314.5	352.4	404.3	481.2	583.0	693.8
122.5°	265.6	267.5	274.5	284.7	303.3	330.4	368.4	417.1	488.4	582.2	687.4
125°	286.5	290.5	296.5	307.5	326.4	354.4	390.3	436.3	499.2	581.0	676.9
127.5°	305.1	308.3	315.5	328.0	347.8	376.0	410.7	452.8	507.7	578.8	662.7
130°	315.5	319.5	327.4	342.4	361.4	390.3	424.3	463.2	514.1	578.0	653.9
132.5°	325.8	329.0	339.4	353.6	374.2	401.5	435.5	473.6	519.7	577.2	645.9
135°	340.4	344.4	354.4	371.4	392.3	418.3	451.2	487.2	528.1	576.0	633.9
137.5°	355.0	358.8	369.8	385.9	407.7	432.5	463.2	496.8	533.1	575.8	623.5
140°	365.4	368.4	379.4	396.3	417.3	441.3	471.2	503.1	537.1	575.0	618.0
142.5°	376.6	379.6	389.7	405.9	426.1	449.2	478.4	507.9	540.3	575.0	613.2
145°	392.3	395.3	405.3	419.3	438.3	460.2	486.2	513.1	542.1	573.0	605.0
147.5°	410.1	411.1	419.9	434.3	450.0	469.8	494.2	517.7	543.1	569.4	597.6
150°	421.3	422.3	430.3	442.3	457.2	476.2	498.2	520.1	543.1	567.0	592.0
152.5°	431.7	431.9	439.9	451.0	464.4	481.8	501.4	521.7	541.5	563.0	585.6
155°	446.2	447.2	453.2	463.2	474.2	489.2	506.1	523.1	539.1	557.1	576.0
157.5°	460.4	460.4	466.0	473.8	483.4	495.2	509.5	523.1	536.5	550.9	566.2
160°	469.2	469.2	473.2	480.2	488.2	499.2	511.1	523.1	534.1	546.1	559.1
162.5°	477.2	476.4	479.6	485.8	493.0	501.6	512.7	523.1	531.7	541.3	552.7
165°	486.2	486.2	488.2	493.2	498.2	504.1	513.1	521.1	527.1	534.1	542.1
167.5°	495.2	494.2	495.2	499.0	501.8	506.3	512.9	518.7	522.3	526.9	532.5
170°	499.2	498.2	499.2	502.2	504.1	507.1	512.1	517.1	519.1	522.1	526.1
172.5°	503.1	502.2	502.3	504.5	505.7	507.9	511.3	515.5	515.9	517.3	520.5
175°	507.1	506.1	506.1	507.1	508.1	508.1	510.1	513.1	512.1	512.1	514.1
177.5°	508.9	508.1	507.3	508.1	508.1	508.1	508.9	510.5	508.9	508.9	509.7
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1



TEST NUMBER: P332525

CATALOG NUMBER: S124DIP-S350D1035U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	588.6	589.5	590.3	590.7	590.6	590.5	590.4	590.3
5°	585.5	586.6	587.8	588.2	588.0	587.8	587.6	587.4
7.5°	578.9	579.9	580.8	581.2	581.1	580.9	580.8	580.7
10°	573.5	574.3	575.2	575.5	575.3	575.0	574.8	574.6
12.5°	566.8	567.7	568.7	569.0	568.7	568.4	568.1	567.8
15°	554.1	554.7	555.4	555.5	555.2	554.9	554.6	554.3
17.5°	539.6	540.0	540.4	540.5	540.3	540.1	539.9	539.7
20°	528.9	529.2	529.5	529.6	529.3	529.1	528.9	528.7
22.5°	517.6	518.2	518.8	518.9	518.5	518.1	517.7	517.4
25°	499.1	499.2	499.3	499.2	498.7	498.3	497.9	497.5
27.5°	478.3	478.1	477.8	477.4	476.9	476.4	475.8	475.3
30°	464.0	463.6	463.1	462.7	462.1	461.6	461.1	460.6
32.5°	449.4	448.9	448.4	447.9	447.4	446.8	446.3	445.8
35°	426.4	425.7	424.9	424.3	423.8	423.3	422.7	422.2
37.5°	402.3	401.5	400.7	400.0	399.3	398.6	397.9	397.2
40°	385.6	384.5	383.5	382.7	382.1	381.6	381.1	380.6
42.5°	369.3	368.1	366.9	366.1	365.7	365.4	365.0	364.7
45°	344.2	343.0	341.9	341.1	340.8	340.5	340.2	339.9
47.5°	319.8	318.5	317.2	316.2	315.4	314.6	313.8	313.0
50°	302.8	301.4	299.9	298.8	298.2	297.6	296.9	296.3
52.5°	285.4	284.1	282.8	281.7	280.9	280.1	279.3	278.5
55°	259.7	258.4	257.2	256.2	255.6	255.0	254.3	253.7
57.5°	234.0	232.8	231.6	230.7	230.1	229.5	228.9	228.2
60°	216.3	215.4	214.4	213.7	213.2	212.6	212.1	211.6
62.5°	199.1	198.2	197.3	196.6	196.1	195.6	195.1	194.5
65°	174.0	172.9	171.9	171.1	170.6	170.0	169.5	169.0
67.5°	148.1	147.1	146.1	145.5	145.4	145.2	145.1	144.9
70°	131.8	131.0	130.1	129.5	129.2	128.9	128.6	128.3
72.5°	115.5	114.8	114.1	113.6	113.3	113.0	112.7	112.4
75°	91.9	91.5	91.1	90.8	90.7	90.6	90.5	90.4
77.5°	69.6	69.5	69.4	69.2	68.9	68.6	68.3	68.1
80°	55.4	55.2	55.0	54.9	54.7	54.6	54.5	54.4
82.5°	42.7	42.6	42.5	42.4	42.3	42.1	42.0	41.9
85°	24.6	24.6	24.6	24.6	24.5	24.4	24.2	24.1
87.5°	12.7	12.9	13.1	13.1	13.3	13.5	13.3	13.3
90°	18.0	19.0	20.0	20.0	21.0	22.0	21.0	21.0
92.5°	196.1	147.6	117.4	97.4	85.7	80.3	76.9	76.9
95°	739.7	585.0	451.2	354.4	305.5	274.5	256.6	243.6
97.5°	1093.0	1035.4	937.8	833.6	761.9	701.8	671.9	651.1
100°	1204.0	1223.9	1175.0	1101.1	1014.3	953.4	923.4	915.5
102.5°	1198.4	1297.4	1311.6	1280.8	1227.5	1183.4	1151.9	1145.5
105°	1118.1	1290.8	1389.6	1430.6	1432.6	1424.6	1410.6	1404.6
107.5°	1004.1	1188.0	1327.2	1416.2	1465.5	1488.3	1498.3	1500.9
110°	935.4	1108.1	1252.9	1362.7	1433.6	1475.5	1493.5	1502.5



TEST NUMBER: P332525

CATALOG NUMBER: S124DIP-S350D1035U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	885.1	1037.8	1174.6	1284.4	1364.9	1415.6	1440.8	1455.3
115°	834.6	957.4	1074.2	1170.0	1248.9	1308.8	1340.7	1348.7
117.5°	809.8	911.5	1003.3	1084.6	1151.9	1202.2	1234.5	1240.7
120°	798.6	891.5	971.4	1042.2	1099.1	1143.1	1169.0	1180.0
122.5°	789.1	878.7	951.4	1013.5	1061.6	1099.1	1121.1	1132.1
125°	772.7	858.5	927.4	982.3	1022.3	1051.2	1070.2	1076.2
127.5°	752.7	834.8	903.5	955.6	995.7	1021.5	1037.4	1043.4
130°	736.8	815.6	883.5	936.4	977.3	1002.3	1018.3	1024.3
132.5°	720.0	794.1	860.3	913.3	953.4	981.5	996.7	1002.7
135°	696.8	761.7	822.6	872.5	912.5	940.4	956.4	962.4
137.5°	675.9	730.8	782.1	827.2	864.5	892.1	905.3	912.5
140°	663.9	710.8	755.7	797.6	832.6	854.6	868.5	876.5
142.5°	652.7	694.0	732.6	768.9	799.8	820.2	832.6	838.2
145°	636.9	670.9	700.8	728.8	753.7	770.7	780.7	785.7
147.5°	623.9	650.9	674.9	696.8	715.2	729.8	737.4	739.1
150°	616.0	638.9	658.9	676.9	692.8	705.8	711.8	712.8
152.5°	607.2	626.9	645.3	660.1	673.7	684.2	687.8	688.8
155°	594.0	610.0	624.9	636.9	646.9	654.9	657.9	657.9
157.5°	579.8	593.2	605.8	615.4	622.9	628.9	630.7	630.7
160°	571.0	582.0	593.0	601.0	607.0	613.0	614.0	614.0
162.5°	562.2	571.6	580.2	587.4	591.8	597.8	598.8	598.0
165°	550.1	556.1	563.0	568.0	572.0	576.0	575.0	574.0
167.5°	538.3	542.9	548.5	551.5	553.5	556.1	555.9	555.1
170°	531.1	534.1	538.1	541.1	543.1	544.1	543.1	543.1
172.5°	524.7	526.9	529.3	531.5	532.7	533.7	532.7	531.1
175°	516.1	517.1	519.1	519.1	519.1	521.1	519.1	517.1
177.5°	510.5	511.3	511.3	512.1	511.3	512.1	510.5	508.9
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1

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