

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: P332531-940

Luminaire Tested: **S124DIP-S350D1205U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332531-940
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-S350D1205U940-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5123.5 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

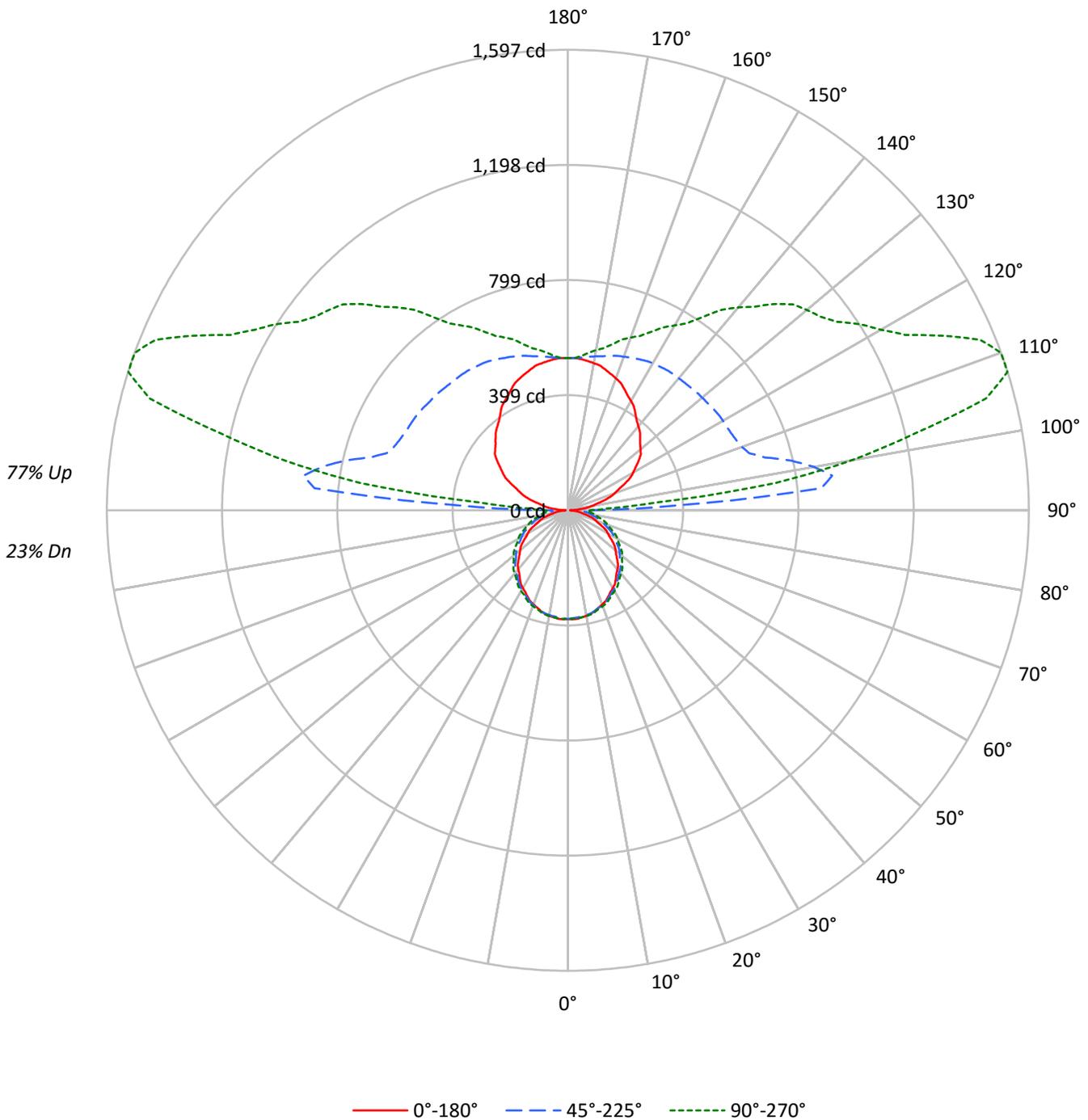
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332531-940

CATALOG NUMBER: S124DIP-S350D1205U940-4F0-1E-UDD-D4

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	101	101	101	101	90	90	90	90	68	68	68	49	49	49	32	32	32	23
1	91	87	83	80	81	77	74	71	59	57	55	42	41	40	27	26	26	19
2	83	76	70	64	73	67	62	58	51	48	45	37	35	33	24	22	21	15
3	75	66	59	53	67	59	53	48	45	41	38	32	30	27	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	18	17	15	11
5	63	52	44	38	56	46	39	34	35	31	27	26	22	20	16	15	13	9
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	11	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	13	12	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	40	30	24	20	24	19	16	17	14	12	11	9	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	10	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3043	3043	3043
5°	3053	2974	2982
10°	3033	2925	2923
15°	3006	2869	2854
20°	2965	2807	2785
25°	2919	2737	2710
30°	2869	2668	2634
35°	2812	2597	2566
40°	2768	2530	2497
45°	2700	2466	2436
50°	2643	2396	2373
55°	2585	2328	2298
60°	2493	2242	2231
65°	2392	2149	2146
70°	2271	2045	2049
75°	2101	1926	1961
80°	1913	1816	1875
85°	1676	1717	1825



TEST NUMBER: P332531-940

CATALOG NUMBER: S124DIP-S350D1205U940-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.7	0.7
10°-20°	102.3	2.0
20°-30°	154.6	3.0
30°-40°	187.1	3.7
40°-50°	197.8	3.9
50°-60°	186.2	3.6
60°-70°	154.4	3.0
70°-80°	108.5	2.1
80°-90°	64.2	1.3
90°-100°	417.4	8.1
100°-110°	819.8	16.0
110°-120°	728.2	14.2
120°-130°	607.6	11.9
130°-140°	502.5	9.8
140°-150°	381.4	7.4
150°-160°	267.5	5.2
160°-170°	157.3	3.1
170°-180°	51.2	1.0
0°-30°	292.6	5.7
0°-40°	479.7	9.4
0°-60°	863.6	16.9
0°-90°	1190.8	23.2
90°-120°	1965.4	38.4
90°-150°	3456.8	67.5
90°-180°	3933.0	76.8
0°-180°	5123.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	377	377	377	377	377	
5°	377	376	373	376	376	36
15°	362	362	361	364	364	102
25°	331	333	335	339	340	152
35°	290	295	299	304	306	181
45°	241	249	257	264	267	187
55°	189	198	211	219	222	168
65°	131	144	159	169	173	130
75°	73	88	106	117	122	77
85°	22	40	59	71	76	24
90°	8	32	60	74	79	6
95°	40	127	881	466	305	43
105°	125	188	708	1502	1500	134
115°	216	275	626	1193	1432	214
125°	299	355	615	1011	1139	266
135°	354	422	602	890	1012	274
145°	408	466	595	744	820	256
155°	463	500	578	655	683	214
165°	505	520	554	587	596	142
175°	526	527	532	539	537	50
180°	527	527	527	527	527	



TEST NUMBER: P332531-940

CATALOG NUMBER: S124DIP-S350D1205U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	378.3	378.0	377.8	377.6	377.4	376.9	376.4	375.8	375.1	374.5	375.1
5°	377.4	377.0	376.7	376.5	376.2	375.8	375.1	374.4	373.8	373.1	373.9
7.5°	374.2	374.0	373.8	373.6	373.4	373.1	372.6	372.0	371.5	371.0	371.8
10°	371.4	371.3	371.2	371.1	371.0	370.8	370.3	369.8	369.3	368.9	369.7
12.5°	367.7	367.7	367.7	367.7	367.7	367.5	367.1	366.8	366.5	366.2	366.9
15°	361.7	361.9	361.9	362.0	362.1	362.0	361.7	361.4	361.1	360.9	361.7
17.5°	353.6	353.8	354.1	354.4	354.6	354.8	354.7	354.6	354.6	354.5	355.4
20°	347.8	348.0	348.4	348.7	348.9	349.1	349.2	349.3	349.4	349.5	350.4
22.5°	341.3	341.7	342.1	342.4	342.8	343.0	343.2	343.4	343.6	343.8	344.6
25°	330.9	331.4	332.1	332.6	333.1	333.6	333.9	334.1	334.4	334.7	335.7
27.5°	319.2	320.1	320.9	321.7	322.5	323.2	323.6	324.0	324.5	324.9	325.8
30°	311.5	312.3	313.0	313.7	314.5	315.2	315.8	316.5	317.2	317.8	318.9
32.5°	303.1	304.0	304.9	305.8	306.7	307.5	308.2	308.9	309.7	310.4	311.6
35°	289.5	290.7	291.8	292.9	294.1	295.1	296.0	296.9	297.9	298.8	300.1
37.5°	276.0	277.2	278.6	279.8	281.2	282.3	283.6	284.7	285.9	287.0	288.4
40°	267.2	268.4	269.7	270.8	272.1	273.3	274.6	276.0	277.2	278.6	280.0
42.5°	257.1	258.4	259.8	261.2	262.5	263.9	265.6	267.1	268.6	270.1	271.7
45°	241.4	243.2	245.0	246.7	248.5	250.3	252.1	253.9	255.7	257.4	259.0
47.5°	226.5	228.4	230.2	232.0	233.8	235.8	237.8	240.0	242.0	244.1	245.7
50°	215.7	217.8	219.8	221.9	223.9	226.0	228.1	230.2	232.2	234.3	236.1
52.5°	204.9	207.0	209.0	211.1	213.1	215.3	217.7	220.1	222.4	224.8	226.7
55°	189.1	191.1	193.1	195.0	197.0	199.4	202.2	205.0	207.8	210.6	212.5
57.5°	171.5	173.9	176.3	178.8	181.2	183.8	186.6	189.4	192.2	195.0	197.2
60°	160.0	162.4	164.9	167.3	169.7	172.5	175.6	178.7	181.7	184.9	187.0
62.5°	148.8	151.5	154.2	156.9	159.4	162.4	165.4	168.5	171.7	174.8	176.9
65°	130.8	133.8	136.9	139.8	142.9	146.0	149.1	152.3	155.5	158.7	161.0
67.5°	113.5	116.7	119.9	123.1	126.3	129.6	133.0	136.4	139.8	143.2	145.6
70°	101.7	104.9	108.1	111.3	114.5	117.9	121.5	125.0	128.6	132.2	134.6
72.5°	90.2	93.5	96.8	100.0	103.3	106.8	110.6	114.4	118.2	122.0	124.4
75°	72.6	76.1	79.5	83.0	86.5	90.2	94.2	98.1	102.0	105.9	108.6
77.5°	56.2	59.8	63.5	67.1	70.8	74.7	78.8	83.0	87.1	91.2	93.9
80°	46.0	49.8	53.5	57.2	61.0	64.9	69.1	73.2	77.3	81.5	84.3
82.5°	35.8	39.8	43.7	47.6	51.5	55.5	59.7	63.8	67.9	72.1	74.9
85°	22.4	26.3	30.2	34.2	38.2	42.2	46.5	50.6	54.8	59.1	61.9
87.5°	12.7	16.9	21.4	25.4	29.4	33.4	38.8	42.9	47.4	51.9	54.5
90°	7.8	13.6	20.5	25.2	30.1	34.0	44.2	48.2	54.3	60.5	62.2
92.5°	18.2	27.0	40.1	56.1	74.6	99.9	156.6	241.0	323.3	368.5	316.2
95°	39.7	45.9	59.3	75.9	103.9	150.9	244.9	418.7	670.1	881.2	907.6
97.5°	66.3	69.0	80.5	95.7	119.7	159.3	232.6	376.7	626.7	923.5	1127.5
100°	83.4	85.9	95.5	110.4	132.5	168.7	233.5	354.3	569.3	865.1	1132.9
102.5°	100.0	103.8	112.4	126.1	147.0	181.5	240.3	347.0	530.4	793.0	1069.0
105°	125.0	130.0	137.1	151.4	171.9	204.6	257.8	347.3	495.9	707.6	953.4
107.5°	153.6	157.1	163.9	178.7	198.0	230.1	278.9	360.6	487.8	658.7	859.8
110°	172.3	175.7	182.2	195.9	215.9	246.1	295.0	370.9	488.1	641.6	812.7



TEST NUMBER: P332531-940

CATALOG NUMBER: S124DIP-S350D1205U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.2	193.4	200.5	213.4	233.2	263.3	310.3	381.8	491.5	632.5	785.2
115°	216.0	219.9	228.0	239.2	259.8	289.6	334.1	399.3	498.6	626.0	758.6
117.5°	243.3	246.6	253.6	265.5	284.5	315.1	357.3	417.2	506.5	622.4	745.2
120°	261.2	263.5	271.1	282.8	300.6	331.1	373.2	429.8	512.3	620.7	737.6
122.5°	277.8	279.8	287.1	297.8	317.1	346.6	388.6	441.7	518.3	618.2	729.3
125°	299.1	303.1	309.2	320.6	340.1	370.2	409.9	459.9	527.5	614.8	716.1
127.5°	318.3	321.5	328.9	341.8	362.2	392.3	430.2	475.7	534.5	610.0	698.7
130°	328.7	332.8	340.9	356.4	375.9	406.7	443.4	485.4	539.8	607.5	688.0
132.5°	339.5	342.7	353.4	368.0	389.2	418.2	454.6	495.4	544.5	605.4	678.2
135°	354.2	358.3	368.7	386.3	408.0	435.3	470.2	508.1	551.3	601.6	663.3
137.5°	369.3	373.2	384.4	401.2	423.7	449.4	481.7	516.8	554.8	599.5	650.4
140°	380.0	383.1	394.4	411.9	433.5	458.4	489.6	522.9	558.2	597.7	643.5
142.5°	391.4	394.4	405.0	421.8	442.6	466.6	496.9	527.4	561.0	597.0	637.7
145°	407.6	410.6	420.9	435.3	455.0	477.7	504.6	532.6	562.7	594.8	628.5
147.5°	426.1	427.0	436.0	450.8	467.2	487.6	512.9	537.3	563.7	591.0	620.4
150°	437.7	438.6	446.8	459.1	474.6	494.3	517.0	539.8	563.7	588.5	614.5
152.5°	448.1	448.4	456.6	468.1	482.1	500.1	520.4	541.5	562.0	584.4	607.8
155°	463.2	464.2	470.4	480.8	492.2	507.7	525.3	543.0	559.5	578.2	597.9
157.5°	477.9	477.9	483.7	491.8	501.7	514.0	528.9	543.0	556.9	571.8	587.7
160°	487.0	487.0	491.2	498.4	506.7	518.1	530.5	543.0	554.4	566.8	580.2
162.5°	495.3	494.5	497.8	504.2	511.7	520.6	532.2	543.0	551.9	561.8	573.6
165°	504.6	504.6	506.7	511.8	517.0	523.3	532.6	540.9	547.1	554.4	562.7
167.5°	514.0	512.9	514.0	517.9	520.8	525.6	532.4	538.4	542.2	546.9	552.7
170°	518.1	517.0	518.1	521.2	523.3	526.4	531.5	536.7	538.8	541.9	546.1
172.5°	522.2	521.2	521.4	523.7	525.0	527.2	530.7	535.1	535.5	536.9	540.3
175°	526.4	525.3	525.3	526.4	527.4	527.4	529.5	532.6	531.5	531.5	533.6
177.5°	528.2	527.4	526.6	527.4	527.4	527.4	528.2	529.9	528.2	528.2	529.1
180°	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4



TEST NUMBER: P332531-940

CATALOG NUMBER: S124DIP-S350D1205U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	375.6	376.1	376.7	376.8	376.8	376.7	376.7	376.6
5°	374.6	375.3	376.1	376.5	376.4	376.2	376.1	376.0
7.5°	372.6	373.4	374.3	374.7	374.6	374.5	374.4	374.3
10°	370.6	371.4	372.3	372.6	372.6	372.5	372.4	372.3
12.5°	367.7	368.5	369.3	369.6	369.6	369.6	369.6	369.5
15°	362.6	363.4	364.3	364.6	364.5	364.4	364.4	364.3
17.5°	356.2	357.1	358.0	358.4	358.3	358.2	358.2	358.1
20°	351.3	352.3	353.2	353.7	353.7	353.7	353.7	353.7
22.5°	345.6	346.5	347.5	348.0	348.2	348.3	348.5	348.7
25°	336.8	337.8	338.9	339.4	339.5	339.6	339.7	339.7
27.5°	326.8	327.8	328.8	329.3	329.4	329.5	329.6	329.8
30°	319.9	320.9	321.9	322.5	322.7	323.0	323.2	323.3
32.5°	312.7	314.0	315.1	315.8	316.0	316.2	316.4	316.6
35°	301.5	302.7	304.1	304.9	305.1	305.4	305.8	306.0
37.5°	289.7	291.0	292.3	293.2	293.5	293.7	294.1	294.4
40°	281.4	282.8	284.2	285.1	285.4	285.9	286.2	286.6
42.5°	273.2	274.8	276.3	277.3	277.6	277.9	278.2	278.5
45°	260.6	262.3	263.9	264.8	265.4	265.8	266.3	266.7
47.5°	247.4	249.0	250.7	251.7	252.4	252.9	253.4	254.0
50°	238.0	239.9	241.7	243.0	243.5	244.1	244.7	245.2
52.5°	228.5	230.4	232.3	233.5	234.1	234.6	235.2	235.8
55°	214.4	216.2	218.1	219.4	219.9	220.4	221.1	221.6
57.5°	199.5	201.7	203.9	205.3	205.8	206.3	206.9	207.4
60°	189.2	191.4	193.5	194.9	195.7	196.4	197.2	198.0
62.5°	179.1	181.2	183.3	184.9	185.6	186.3	187.1	187.8
65°	163.4	165.8	168.1	169.6	170.4	171.1	171.9	172.6
67.5°	148.0	150.4	152.8	154.4	155.1	155.8	156.5	157.3
70°	137.1	139.7	142.2	143.8	144.5	145.2	145.8	146.4
72.5°	126.9	129.4	131.8	133.4	134.1	134.8	135.6	136.3
75°	111.2	113.8	116.5	118.2	119.0	119.8	120.7	121.5
77.5°	96.6	99.2	101.9	103.7	104.6	105.5	106.4	107.3
80°	87.1	89.9	92.7	94.5	95.2	96.0	96.8	97.5
82.5°	77.8	80.7	83.6	85.4	86.2	87.0	87.9	88.7
85°	64.7	67.5	70.4	72.2	73.1	74.1	75.0	76.0
87.5°	57.3	60.3	63.2	65.0	66.0	67.1	67.7	68.5
90°	65.9	69.6	73.4	75.1	77.0	78.7	78.4	79.2
92.5°	248.5	200.8	172.2	153.2	141.7	136.9	134.1	134.8
95°	809.6	651.5	515.2	416.3	366.5	335.2	317.4	304.7
97.5°	1173.4	1116.2	1017.4	910.8	837.1	775.6	745.3	724.6
100°	1286.7	1310.0	1261.8	1186.7	1097.2	1034.7	1004.2	996.6
102.5°	1279.2	1384.4	1401.5	1371.2	1316.6	1271.6	1239.6	1233.7
105°	1193.0	1374.7	1479.6	1523.6	1526.4	1518.9	1505.1	1499.7
107.5°	1072.2	1265.3	1412.1	1506.0	1557.9	1582.2	1593.2	1596.6
110°	999.3	1180.7	1333.1	1448.5	1522.9	1567.1	1586.5	1596.6



TEST NUMBER: P332531-940

CATALOG NUMBER: S124DIP-S350D1205U940-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	945.2	1105.8	1249.8	1365.2	1449.5	1502.9	1529.7	1545.6
115°	890.2	1019.7	1143.0	1243.8	1326.3	1389.2	1423.0	1431.9
117.5°	861.7	969.2	1066.5	1152.2	1222.7	1275.7	1310.0	1317.2
120°	848.3	946.6	1031.4	1106.2	1166.0	1212.4	1240.0	1252.2
122.5°	836.7	931.6	1008.9	1074.6	1125.2	1164.8	1188.4	1200.4
125°	817.3	908.3	981.5	1039.7	1081.7	1112.3	1132.6	1139.3
127.5°	793.9	880.8	953.8	1009.1	1051.3	1078.7	1095.9	1102.8
130°	775.7	859.3	931.4	987.4	1030.5	1056.9	1074.1	1080.8
132.5°	756.8	835.3	905.7	961.7	1003.9	1033.7	1050.0	1056.8
135°	730.0	798.9	863.6	916.4	958.4	988.0	1005.1	1011.9
137.5°	706.1	764.5	819.0	866.8	906.1	935.1	949.2	957.2
140°	692.3	742.3	790.1	834.5	871.2	894.5	909.5	918.2
142.5°	679.8	723.7	764.8	803.3	835.7	857.3	870.5	876.7
145°	662.2	698.0	729.6	759.1	785.4	803.4	814.1	819.7
147.5°	647.7	675.8	700.7	723.7	743.1	758.5	766.7	768.8
150°	639.4	663.2	683.9	702.5	719.1	732.5	738.8	739.9
152.5°	630.2	650.7	669.8	685.1	699.2	710.2	713.9	715.0
155°	616.5	633.1	648.6	661.1	671.5	679.8	682.9	682.9
157.5°	601.8	615.7	628.7	638.7	646.6	652.8	654.7	654.7
160°	592.7	604.0	615.5	623.8	630.0	636.2	637.2	637.2
162.5°	583.5	593.3	602.3	609.7	614.2	620.5	621.5	620.6
165°	571.0	577.1	584.4	589.6	593.7	597.9	596.8	595.8
167.5°	558.7	563.5	569.3	572.4	574.4	577.1	576.9	576.1
170°	551.3	554.4	558.5	561.6	563.7	564.7	563.7	563.7
172.5°	544.6	546.9	549.4	551.6	552.9	553.9	552.9	551.3
175°	535.7	536.7	538.8	538.8	538.8	540.9	538.8	536.7
177.5°	529.9	530.7	530.7	531.5	530.7	531.5	529.9	528.2
180°	527.4	527.4	527.4	527.4	527.4	527.4	527.4	527.4

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