

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: P332549-935

Luminaire Tested: **S124DIP-S575D590U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332549-935  
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-S575D590U935-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3859.1 lumens  
Efficiency: N/A  
Efficacy: 117.7 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: General Diffuse

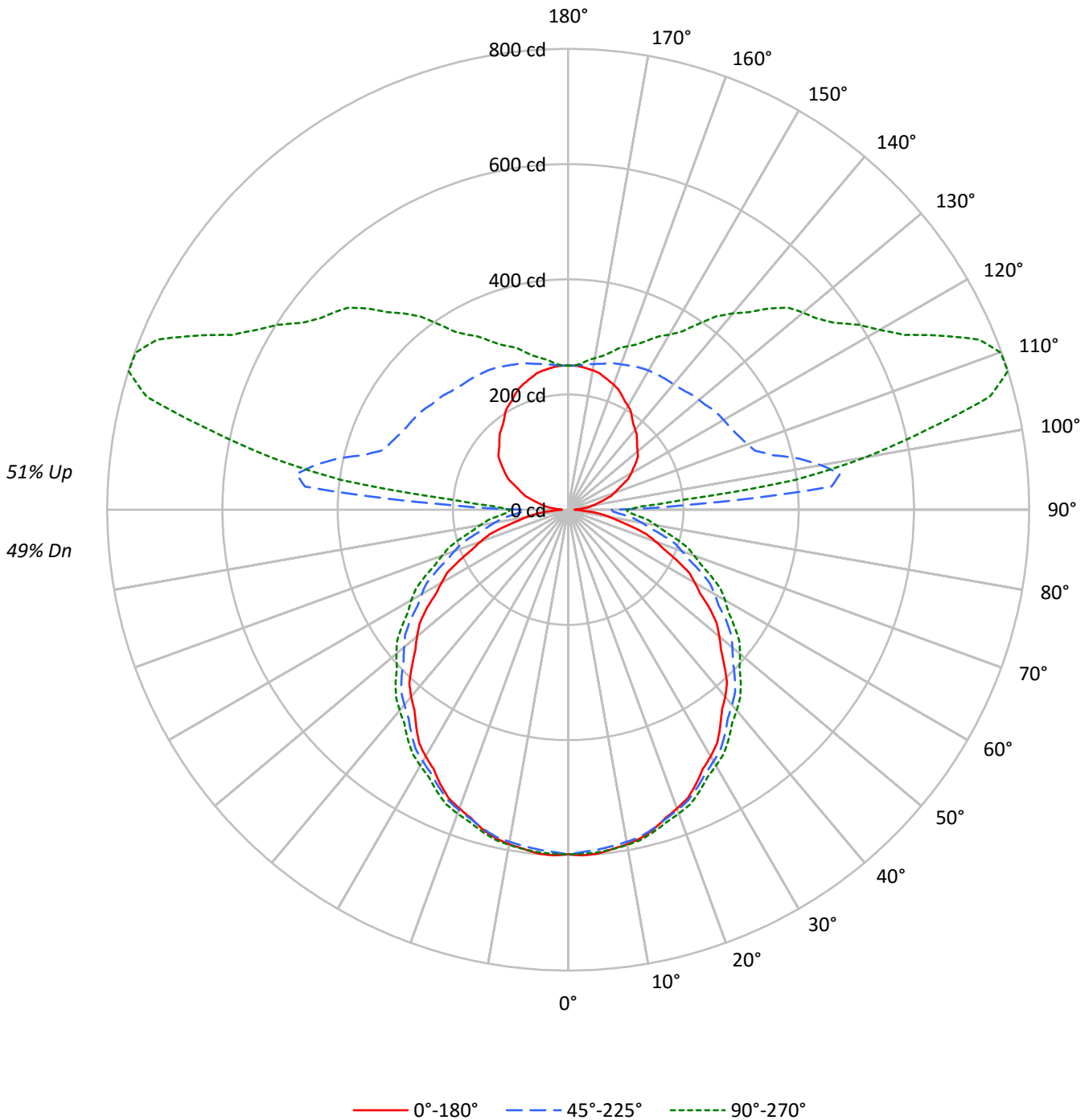
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332549-935

CATALOG NUMBER: S124DIP-S575D590U935-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P332549-935

CATALOG NUMBER: S124DIP-S575D590U935-4F0-1E-UDD-D4

**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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	87	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	22
5	67	54	46	40	61	50	43	37	43	37	32	35	31	27	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4830	4830	4830
5°	4845	4721	4734
10°	4816	4644	4639
15°	4772	4554	4529
20°	4707	4455	4422
25°	4634	4345	4302
30°	4555	4235	4181
35°	4464	4122	4074
40°	4393	4015	3964
45°	4286	3916	3867
50°	4195	3803	3767
55°	4102	3695	3648
60°	3957	3557	3541
65°	3798	3411	3409
70°	3603	3243	3253
75°	3334	3060	3114
80°	3035	2882	2977
85°	2656	2725	2896



TEST NUMBER: P332549-935

CATALOG NUMBER: S124DIP-S575D590U935-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.7	1.5
10°-20°	162.3	4.2
20°-30°	245.5	6.4
30°-40°	297.0	7.7
40°-50°	314.0	8.1
50°-60°	295.5	7.7
60°-70°	245.2	6.4
70°-80°	172.2	4.5
80°-90°	98.7	2.6
90°-100°	238.4	6.2
100°-110°	418.6	10.8
110°-120°	365.3	9.5
120°-130°	299.4	7.8
130°-140°	243.1	6.3
140°-150°	181.8	4.7
150°-160°	126.8	3.3
160°-170°	74.6	1.9
170°-180°	24.3	0.6
0°-30°	464.5	12.0
0°-40°	761.4	19.7
0°-60°	1370.9	35.5
0°-90°	1887.0	48.9
90°-120°	1022.3	26.5
90°-150°	1746.5	45.3
90°-180°	1972.0	51.1
0°-180°	3859.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	598	598	598	598	598	
5°	599	597	592	597	597	57
15°	574	575	573	578	578	162
25°	525	529	531	538	539	242
35°	460	468	474	483	486	288
45°	383	396	409	420	423	296
55°	300	314	334	347	352	267
65°	208	229	252	268	274	206
75°	115	140	168	186	193	123
85°	36	64	94	113	121	38
90°	11	42	75	95	101	8
95°	25	82	459	274	202	25
105°	64	103	366	754	757	68
115°	105	138	319	598	714	105
125°	144	170	305	501	565	128
135°	169	201	290	433	494	131
145°	194	221	282	356	393	122
155°	220	237	274	310	324	101
165°	239	247	263	278	282	68
175°	250	250	252	255	254	24
180°	250	250	250	250	250	



TEST NUMBER: P332549-935

CATALOG NUMBER: S124DIP-S575D590U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	600.5	600.1	599.8	599.3	599.0	598.4	597.4	596.5	595.5	594.5	595.4
5°	599.0	598.6	598.1	597.6	597.2	596.4	595.4	594.3	593.3	592.3	593.5
7.5°	593.9	593.6	593.3	593.1	592.8	592.3	591.4	590.6	589.6	588.8	590.1
10°	589.6	589.4	589.3	589.2	589.0	588.6	587.8	587.0	586.3	585.6	586.9
12.5°	583.7	583.7	583.7	583.6	583.6	583.3	582.8	582.3	581.8	581.3	582.5
15°	574.2	574.4	574.5	574.6	574.8	574.6	574.2	573.8	573.3	572.8	574.2
17.5°	561.2	561.6	562.1	562.5	563.0	563.2	563.1	563.0	562.9	562.8	564.1
20°	552.1	552.5	552.9	553.5	553.9	554.1	554.3	554.5	554.6	554.7	556.2
22.5°	541.9	542.4	543.0	543.5	544.2	544.6	544.8	545.1	545.4	545.6	547.2
25°	525.3	526.2	527.1	528.0	528.8	529.5	529.9	530.4	530.9	531.3	533.0
27.5°	506.8	508.1	509.4	510.7	512.0	513.0	513.7	514.4	515.1	515.7	517.3
30°	494.5	495.7	496.8	498.0	499.2	500.3	501.4	502.4	503.4	504.5	506.2
32.5°	481.0	482.5	483.9	485.3	486.8	488.1	489.2	490.4	491.5	492.8	494.6
35°	459.6	461.4	463.2	464.9	466.7	468.4	469.8	471.4	472.9	474.3	476.5
37.5°	438.1	440.1	442.1	444.2	446.3	448.2	450.0	451.9	453.7	455.6	457.7
40°	424.1	426.0	428.0	429.9	431.9	433.9	435.9	438.0	440.1	442.2	444.4
42.5°	408.0	410.2	412.3	414.6	416.7	419.0	421.5	423.9	426.4	428.8	431.3
45°	383.2	386.1	388.9	391.8	394.5	397.4	400.2	403.0	405.9	408.7	411.2
47.5°	359.6	362.4	365.3	368.2	371.2	374.3	377.5	380.8	384.1	387.4	390.0
50°	342.3	345.6	348.9	352.2	355.5	358.8	362.1	365.3	368.6	371.9	374.8
52.5°	325.2	328.5	331.7	335.0	338.3	341.8	345.6	349.3	353.1	356.8	359.8
55°	300.1	303.2	306.4	309.5	312.6	316.4	320.9	325.4	329.8	334.3	337.3
57.5°	272.2	276.0	279.9	283.8	287.7	291.8	296.2	300.7	305.1	309.5	313.1
60°	253.9	257.8	261.7	265.5	269.4	273.8	278.7	283.6	288.5	293.4	296.9
62.5°	236.3	240.5	244.7	248.9	253.1	257.7	262.6	267.5	272.5	277.4	280.8
65°	207.7	212.5	217.2	222.0	226.8	231.7	236.7	241.8	246.8	251.9	255.6
67.5°	180.2	185.3	190.4	195.4	200.4	205.7	211.1	216.5	222.0	227.4	231.2
70°	161.4	166.5	171.6	176.7	181.8	187.1	192.7	198.4	204.1	209.7	213.7
72.5°	143.3	148.4	153.6	158.8	163.9	169.5	175.6	181.6	187.6	193.6	197.5
75°	115.2	120.7	126.2	131.7	137.2	143.2	149.4	155.7	162.0	168.2	172.4
77.5°	89.1	95.0	100.8	106.6	112.4	118.6	125.2	131.7	138.3	144.8	149.0
80°	73.0	79.0	85.0	90.9	96.9	103.1	109.7	116.2	122.8	129.3	133.8
82.5°	56.9	63.1	69.3	75.5	81.7	88.1	94.6	101.2	107.7	114.3	118.9
85°	35.5	41.8	48.0	54.2	60.5	67.0	73.7	80.4	87.1	93.8	98.2
87.5°	19.9	26.2	32.5	38.7	44.9	51.2	58.3	64.8	71.5	78.3	82.5
90°	11.2	18.2	25.6	32.0	38.5	44.7	54.0	60.4	67.8	75.2	79.0
92.5°	15.8	23.7	33.7	45.0	57.5	73.6	105.0	149.6	193.0	218.9	197.1
95°	24.9	31.3	41.2	52.4	69.1	95.2	144.1	230.7	354.2	458.6	473.9
97.5°	37.0	41.2	49.7	59.8	74.1	96.5	135.5	208.0	330.8	475.7	575.1
100°	44.7	48.6	55.9	65.6	78.9	99.4	134.1	195.5	301.5	445.8	575.6
102.5°	52.5	56.7	63.2	72.1	84.4	103.8	135.8	190.3	281.3	409.7	543.3
105°	63.5	67.9	73.4	82.2	94.1	112.5	141.6	188.0	262.2	366.4	485.6
107.5°	76.9	80.3	85.2	93.9	104.9	122.7	149.6	191.9	255.9	340.5	438.4
110°	85.4	88.5	93.0	101.0	111.9	128.8	155.7	195.3	254.5	330.9	414.4



TEST NUMBER: P332549-935

CATALOG NUMBER: S124DIP-S575D590U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	93.5	96.3	101.1	108.4	119.1	135.8	161.5	199.0	254.4	324.7	399.4
115°	105.2	108.0	112.8	119.1	129.8	146.0	170.5	204.7	255.1	318.8	384.0
117.5°	118.0	120.2	124.1	130.3	139.8	156.2	179.3	210.9	256.2	314.3	374.7
120°	126.1	127.6	131.5	137.3	146.1	162.2	185.2	215.1	257.2	311.6	369.1
122.5°	134.0	135.1	138.6	143.7	152.9	168.3	191.1	219.1	258.3	308.6	363.3
125°	143.6	145.4	148.3	153.5	162.7	178.2	199.7	225.9	260.6	304.6	354.6
127.5°	152.7	154.0	157.5	163.5	173.1	188.3	208.2	231.8	261.7	299.5	343.5
130°	157.2	159.0	162.8	170.0	179.2	194.6	213.6	235.2	262.6	296.4	336.5
132.5°	162.3	163.8	168.7	175.6	185.5	199.8	218.4	239.1	263.7	293.9	330.3
135°	168.8	170.8	175.7	184.1	194.3	207.7	224.9	243.7	264.8	289.5	320.3
137.5°	176.0	177.7	183.0	190.8	201.3	213.7	229.3	246.3	264.8	286.3	311.9
140°	181.1	182.4	187.7	195.9	206.0	217.8	232.7	248.6	265.4	284.2	307.3
142.5°	186.1	187.5	192.5	200.4	210.3	221.6	235.9	250.4	266.1	283.2	303.7
145°	193.7	195.0	199.8	206.5	215.7	226.4	239.2	252.4	266.7	281.9	298.5
147.5°	202.4	202.8	207.0	213.9	221.4	231.2	243.1	254.7	267.2	280.2	294.1
150°	207.9	208.3	212.1	217.8	225.1	234.3	245.1	255.9	267.2	279.0	291.3
152.5°	212.5	212.6	216.5	222.0	228.5	237.0	246.7	256.7	266.4	277.0	288.1
155°	219.6	220.1	223.0	227.9	233.3	240.6	249.0	257.4	265.2	274.1	283.4
157.5°	226.5	226.5	229.3	233.1	237.8	243.6	250.7	257.4	264.0	271.0	278.6
160°	230.8	230.8	232.8	236.3	240.1	245.6	251.5	257.4	262.8	268.6	275.1
162.5°	234.8	234.4	235.9	239.0	242.5	246.8	252.3	257.4	261.6	266.3	271.9
165°	239.2	239.2	240.1	242.6	245.1	248.1	252.4	256.4	259.3	262.8	266.7
167.5°	243.6	243.1	243.6	245.5	246.8	249.1	252.4	255.2	257.0	259.2	262.0
170°	245.6	245.1	245.6	247.0	248.1	249.5	251.9	254.4	255.4	256.8	258.8
172.5°	247.5	247.0	247.1	248.2	248.8	249.9	251.6	253.7	253.8	254.5	256.1
175°	249.5	249.0	249.0	249.5	250.0	250.0	251.0	252.4	251.9	251.9	253.0
177.5°	250.4	250.0	249.6	250.0	250.0	250.0	250.4	251.2	250.4	250.4	250.8
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0



TEST NUMBER: P332549-935

CATALOG NUMBER: S124DIP-S575D590U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	596.2	597.0	597.9	598.2	598.1	598.0	597.9	597.8
5°	594.7	595.8	597.0	597.5	597.4	597.3	597.1	596.9
7.5°	591.5	592.8	594.2	594.8	594.6	594.4	594.3	594.2
10°	588.2	589.6	590.9	591.5	591.4	591.2	591.1	590.9
12.5°	583.8	585.0	586.2	586.8	586.8	586.7	586.7	586.7
15°	575.5	576.9	578.2	578.8	578.7	578.5	578.3	578.2
17.5°	565.5	566.9	568.3	568.9	568.8	568.7	568.5	568.4
20°	557.8	559.2	560.7	561.5	561.5	561.5	561.5	561.5
22.5°	548.6	550.1	551.6	552.5	552.7	552.9	553.2	553.5
25°	534.6	536.2	537.9	538.7	538.9	539.1	539.2	539.3
27.5°	518.8	520.3	521.9	522.7	522.9	523.1	523.2	523.4
30°	507.8	509.5	511.1	512.0	512.3	512.6	512.9	513.2
32.5°	496.5	498.3	500.2	501.3	501.6	501.9	502.2	502.5
35°	478.5	480.6	482.7	484.0	484.4	484.8	485.3	485.8
37.5°	459.9	461.9	464.1	465.4	465.8	466.3	466.7	467.3
40°	446.7	448.9	451.2	452.5	453.1	453.7	454.3	455.0
42.5°	433.8	436.2	438.7	440.1	440.7	441.1	441.6	442.0
45°	413.8	416.3	418.8	420.4	421.2	422.0	422.7	423.4
47.5°	392.6	395.3	397.9	399.6	400.5	401.4	402.3	403.2
50°	377.8	380.8	383.7	385.7	386.6	387.4	388.4	389.3
52.5°	362.8	365.8	368.8	370.7	371.6	372.5	373.3	374.3
55°	340.3	343.3	346.2	348.2	349.0	350.0	350.9	351.7
57.5°	316.6	320.2	323.7	325.9	326.7	327.5	328.4	329.2
60°	300.3	303.8	307.1	309.4	310.6	311.9	313.1	314.3
62.5°	284.2	287.7	291.1	293.3	294.5	295.8	297.0	298.2
65°	259.3	263.1	266.8	269.2	270.4	271.6	272.9	274.1
67.5°	235.0	238.8	242.5	245.0	246.2	247.3	248.5	249.6
70°	217.7	221.8	225.8	228.3	229.4	230.4	231.4	232.5
72.5°	201.4	205.3	209.2	211.7	212.9	214.0	215.2	216.4
75°	176.5	180.6	184.9	187.6	188.9	190.3	191.7	193.0
77.5°	153.3	157.6	161.8	164.6	166.0	167.5	168.8	170.3
80°	138.3	142.7	147.1	150.0	151.2	152.4	153.6	154.8
82.5°	123.5	128.0	132.7	135.6	136.9	138.2	139.5	140.9
85°	102.7	107.2	111.7	114.7	116.1	117.6	119.1	120.6
87.5°	86.9	91.4	95.7	98.6	100.0	101.3	102.6	103.9
90°	83.8	88.6	93.4	96.2	97.9	99.5	100.2	101.4
92.5°	168.0	148.3	137.7	130.5	126.0	124.5	124.0	125.2
95°	430.2	358.2	296.4	251.4	228.7	214.8	207.3	202.2
97.5°	599.7	575.2	531.2	482.4	448.5	420.2	406.7	397.8
100°	651.3	665.1	645.1	611.3	569.6	540.7	527.0	524.1
102.5°	645.7	698.3	709.1	696.5	671.5	650.9	636.5	634.6
105°	601.8	690.4	742.8	765.4	767.6	764.8	759.1	757.4
107.5°	541.7	635.8	707.9	754.1	779.5	791.7	797.7	800.0
110°	505.2	593.7	668.3	724.6	760.7	782.5	792.6	798.1





TEST NUMBER: P332549-935

CATALOG NUMBER: S124DIP-S575D590U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	477.6	556.0	626.6	682.9	723.7	749.8	763.4	771.7
115°	448.7	512.3	573.1	622.4	662.2	692.8	709.5	714.5
117.5°	432.0	485.2	533.5	575.6	609.8	635.8	652.9	657.2
120°	423.7	472.3	514.6	551.6	580.7	603.6	617.5	624.1
122.5°	416.3	463.4	502.1	534.7	559.4	578.9	590.8	597.3
125°	404.6	449.6	486.4	515.2	535.8	551.0	561.1	565.0
127.5°	390.5	433.5	469.9	497.4	518.2	531.8	540.8	544.8
130°	379.9	421.4	457.4	485.3	506.3	519.4	528.2	532.1
132.5°	369.3	408.3	443.4	471.2	491.8	506.6	515.0	518.8
135°	353.6	388.0	420.3	446.4	467.0	481.6	490.4	494.2
137.5°	339.8	369.0	396.4	420.1	439.2	453.5	460.7	465.0
140°	331.8	356.9	380.9	402.9	420.8	432.3	440.0	444.6
142.5°	324.8	346.8	367.5	386.5	402.3	413.0	419.7	423.1
145°	315.1	332.8	348.4	362.8	375.7	384.7	390.2	393.2
147.5°	307.2	320.6	332.5	343.6	353.1	360.8	365.0	366.4
150°	303.1	314.4	324.2	333.0	340.9	347.2	350.2	350.7
152.5°	298.7	308.4	317.5	324.8	331.4	336.7	338.4	338.9
155°	292.2	300.1	307.5	313.3	318.3	322.2	323.6	323.6
157.5°	285.2	291.9	298.0	302.7	306.5	309.4	310.3	310.3
160°	280.9	286.4	291.7	295.7	298.6	301.6	302.0	302.0
162.5°	276.6	281.2	285.4	289.0	291.2	294.1	294.6	294.2
165°	270.6	273.5	277.0	279.5	281.5	283.4	282.9	282.4
167.5°	264.8	267.1	269.8	271.3	272.3	273.5	273.5	273.1
170°	261.3	262.8	264.8	266.2	267.2	267.7	267.2	267.2
172.5°	258.1	259.2	260.5	261.5	262.1	262.6	262.1	261.3
175°	253.9	254.4	255.4	255.4	255.4	256.4	255.4	254.4
177.5°	251.2	251.6	251.6	251.9	251.6	251.9	251.2	250.4
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0

(END OF REPORT)