

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: P331338-935

Luminaire Tested: **S122DIP-S675D330U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331338-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S675D330U935-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3427.9 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

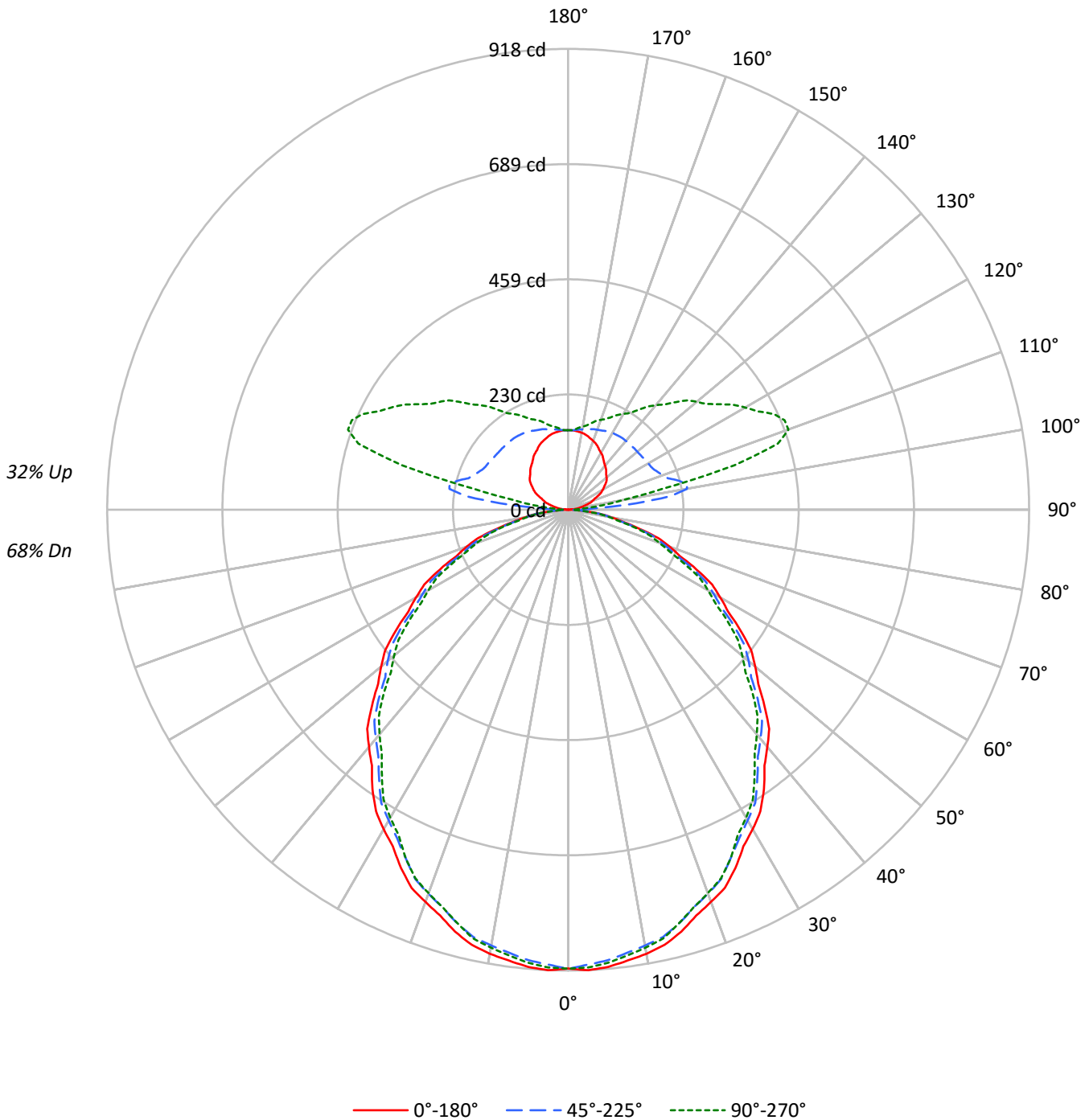
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331338-935

CATALOG NUMBER: S122DIP-S675D330U935-4F0-1E-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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	73	73	73	68
1	102	97	93	90	96	92	88	85	82	79	77	73	71	69	64	63	61	57
2	93	85	79	73	87	80	75	70	72	67	64	64	60	57	56	54	52	48
3	85	75	67	61	79	71	64	59	63	58	54	56	52	49	50	47	44	41
4	77	66	58	52	73	63	56	50	56	50	46	50	46	42	45	41	38	35
5	71	59	51	45	67	56	49	43	51	44	40	45	40	36	40	36	33	30
6	66	53	45	39	62	51	43	37	46	39	35	41	36	32	37	32	29	27
7	61	48	40	34	57	46	38	33	41	35	31	37	32	28	33	29	26	24
8	57	44	36	30	53	42	34	29	38	32	27	34	29	25	31	27	23	21
9	53	40	32	27	50	38	31	26	35	29	25	32	26	23	28	24	21	19
10	49	37	29	25	47	35	28	24	32	26	22	29	24	21	26	22	19	17

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

	0°	45°	90°
0°	14759	14759	14759
5°	14815	14603	14687
10°	14728	14454	14526
15°	14544	14265	14252
20°	14287	13984	13969
25°	14031	13639	13639
30°	13699	13323	13207
35°	13391	12942	12751
40°	13004	12560	12319
45°	12622	12184	11880
50°	12208	11788	11369
55°	11778	11333	10911
60°	11296	10785	10388
65°	10777	10243	9773
70°	10126	9583	9130
75°	9214	8827	8609
80°	8173	7922	7513
85°	6688	6354	5687



TEST NUMBER: P331338-935

CATALOG NUMBER: S122DIP-S675D330U935-4F0-1E-UDD-F4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.0	2.5
10°-20°	241.9	7.1
20°-30°	355.5	10.4
30°-40°	412.9	12.0
40°-50°	412.5	12.0
50°-60°	359.7	10.5
60°-70°	266.0	7.8
70°-80°	150.6	4.4
80°-90°	41.9	1.2
90°-100°	63.3	1.8
100°-110°	214.7	6.3
110°-120°	228.0	6.7
120°-130°	187.7	5.5
130°-140°	150.7	4.4
140°-150°	113.9	3.3
150°-160°	80.1	2.3
160°-170°	47.1	1.4
170°-180°	15.3	0.4
0°-30°	683.3	19.9
0°-40°	1096.3	32.0
0°-60°	1868.5	54.5
0°-90°	2327.0	67.9
90°-120°	505.9	14.8
90°-150°	958.3	28.0
90°-180°	1101.0	32.1
0°-180°	3427.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	914	914	914	914	914	
5°	914	910	901	907	906	87
15°	870	865	853	857	853	245
25°	788	780	766	767	766	362
35°	679	670	657	651	647	424
45°	553	546	534	524	520	426
55°	418	413	403	392	388	374
65°	282	277	268	260	256	279
75°	148	146	142	137	138	158
85°	36	35	34	32	31	41
90°	0	4	10	10	10	2
95°	11	26	119	45	35	11
105°	37	56	225	403	343	39
115°	65	83	189	389	451	65
125°	91	108	181	315	366	81
135°	107	128	179	265	303	83
145°	122	141	178	221	242	77
155°	139	150	173	196	204	64
165°	152	156	166	176	179	43
175°	158	158	159	161	161	15
180°	158	158	158	158	158	



TEST NUMBER: P331338-935

CATALOG NUMBER: S122DIP-S675D330U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1
2.5°	918.3	917.6	916.8	916.0	915.2	914.0	912.2	910.5	908.8	907.1	908.6
5°	914.1	913.3	912.6	911.8	911.0	909.6	907.4	905.3	903.1	901.0	902.5
7.5°	906.0	904.8	903.6	902.4	901.2	899.5	897.3	895.1	892.9	890.7	892.3
10°	898.3	896.9	895.5	894.1	892.9	891.0	888.6	886.3	883.9	881.6	883.1
12.5°	887.8	886.6	885.3	884.1	882.9	881.1	878.7	876.4	874.1	871.8	872.9
15°	870.1	869.0	867.8	866.7	865.5	863.6	861.1	858.5	856.0	853.4	854.3
17.5°	847.7	846.4	845.3	844.1	843.0	841.1	838.5	835.9	833.4	830.8	831.7
20°	831.5	830.3	829.1	827.9	826.8	824.8	822.1	819.4	816.7	813.9	814.5
22.5°	815.3	813.6	812.0	810.4	808.7	806.7	804.1	801.5	798.9	796.3	796.4
25°	787.6	786.0	784.5	782.8	781.3	778.9	775.5	772.2	768.9	765.6	765.9
27.5°	755.9	754.5	753.1	751.7	750.3	748.3	745.6	743.0	740.4	737.8	737.2
30°	734.8	733.2	731.7	730.1	728.6	726.3	723.4	720.5	717.6	714.6	714.0
32.5°	712.3	711.0	709.8	708.5	707.3	705.2	702.1	699.0	695.9	692.8	691.7
35°	679.4	677.5	675.5	673.6	671.6	669.1	666.0	662.8	659.7	656.6	655.4
37.5°	642.3	640.6	638.9	637.1	635.5	633.0	629.9	626.8	623.7	620.5	619.1
40°	617.0	615.4	613.9	612.3	610.8	608.5	605.3	602.2	599.1	595.9	594.2
42.5°	592.5	590.8	589.3	587.7	586.2	583.8	580.7	577.6	574.5	571.4	569.4
45°	552.8	551.5	550.1	548.8	547.4	545.3	542.3	539.4	536.5	533.6	531.4
47.5°	513.5	512.2	510.9	509.6	508.3	506.2	503.1	500.1	497.1	494.0	491.7
50°	486.0	485.1	484.1	483.1	482.2	480.3	477.6	474.8	472.1	469.3	466.7
52.5°	459.3	458.1	456.8	455.5	454.2	452.3	449.7	447.1	444.5	442.0	439.7
55°	418.4	417.2	416.0	414.8	413.7	411.9	409.6	407.3	404.9	402.6	400.2
57.5°	377.2	376.3	375.4	374.4	373.5	371.8	369.2	366.6	364.0	361.4	359.1
60°	349.8	349.0	348.3	347.5	346.7	344.9	342.2	339.5	336.7	334.0	331.8
62.5°	323.1	321.8	320.6	319.3	318.1	316.4	314.4	312.2	310.1	308.0	306.0
65°	282.1	280.9	279.8	278.6	277.4	275.9	274.0	272.0	270.0	268.1	266.3
67.5°	240.5	239.5	238.6	237.6	236.7	235.4	233.6	231.9	230.1	228.3	227.0
70°	214.5	213.7	212.9	212.2	211.4	210.1	208.3	206.6	204.8	203.0	201.6
72.5°	187.8	186.9	186.1	185.4	184.6	183.7	182.5	181.4	180.3	179.1	177.8
75°	147.7	147.2	146.9	146.5	146.1	145.4	144.5	143.4	142.5	141.5	140.3
77.5°	111.8	111.2	110.5	109.8	109.2	108.7	108.2	107.8	107.5	107.0	106.5
80°	87.9	87.7	87.5	87.3	87.1	86.8	86.4	86.0	85.7	85.2	84.6
82.5°	65.4	65.3	65.3	65.3	65.3	65.1	64.8	64.7	64.4	64.1	63.5
85°	36.1	35.8	35.6	35.5	35.2	35.0	34.9	34.7	34.4	34.3	33.7
87.5°	12.7	12.6	12.5	12.3	12.1	12.0	12.0	12.1	12.1	11.9	11.4
90°	0.3	1.2	2.4	3.0	3.6	4.6	6.1	8.2	10.1	10.3	10.1
92.5°	3.7	5.3	7.6	8.9	10.9	13.8	20.7	30.4	39.0	39.5	33.4
95°	10.7	11.9	14.9	17.7	22.5	29.8	43.8	70.3	105.6	119.2	104.4
97.5°	17.3	18.9	22.2	26.3	31.9	40.2	57.8	94.7	153.3	203.5	213.5
100°	23.4	24.4	27.0	31.9	38.1	46.6	62.7	99.8	165.5	240.3	284.1
102.5°	29.0	29.7	32.5	37.3	43.7	52.2	67.1	100.0	160.8	241.5	310.4
105°	37.1	38.3	40.5	45.0	51.7	60.3	74.6	101.6	151.8	225.4	306.3
107.5°	45.9	46.8	48.9	53.1	59.8	68.4	82.2	105.8	147.3	208.1	279.7
110°	51.7	53.0	54.8	58.7	65.1	74.0	87.3	109.2	146.4	199.8	262.9



TEST NUMBER: P331338-935

CATALOG NUMBER: S122DIP-S675D330U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	57.1	58.3	60.4	64.1	70.2	79.3	92.2	112.9	146.5	194.5	251.2
115°	65.4	66.9	68.8	72.4	78.5	86.7	99.8	118.3	147.8	188.6	236.7
117.5°	74.0	75.3	77.1	80.3	86.2	94.7	106.8	124.2	150.1	185.7	227.6
120°	79.4	80.6	82.5	85.2	91.3	99.8	111.7	128.1	151.5	184.1	222.7
122.5°	84.6	85.5	87.3	90.3	96.3	105.1	116.2	131.5	153.2	183.0	218.5
125°	91.3	92.2	94.0	97.6	103.8	112.3	123.2	136.9	155.8	181.3	212.7
127.5°	96.6	97.8	100.4	104.4	110.2	119.0	129.7	142.0	158.3	180.3	207.2
130°	99.8	101.0	104.0	108.3	114.4	122.9	133.5	145.1	160.3	179.8	203.5
132.5°	102.7	104.2	107.5	111.9	118.3	126.8	137.0	148.3	162.3	179.5	200.6
135°	107.1	108.3	111.9	116.5	123.6	132.0	141.8	152.4	164.6	179.2	196.5
137.5°	111.2	112.7	116.3	121.2	128.1	136.0	145.7	155.6	166.7	179.1	193.6
140°	114.4	115.6	119.2	124.2	130.8	138.7	147.8	157.3	167.6	178.9	191.9
142.5°	117.5	118.6	121.9	126.8	133.3	140.7	149.6	158.8	168.3	178.9	190.3
145°	122.3	123.6	126.6	131.1	137.2	143.9	152.1	160.7	169.1	178.2	188.0
147.5°	127.4	128.3	131.2	135.4	140.5	146.5	154.2	161.7	169.4	177.2	185.7
150°	130.8	131.7	134.1	138.1	142.7	148.2	155.2	162.1	169.1	176.4	183.7
152.5°	134.2	134.7	137.1	140.5	144.9	149.8	156.1	162.4	168.7	175.2	182.0
155°	139.1	139.3	141.1	144.5	147.8	152.4	157.6	162.7	167.9	173.1	178.9
157.5°	143.0	143.4	144.8	147.7	150.4	154.2	158.6	162.7	166.5	170.9	175.9
160°	145.7	146.0	147.2	149.6	152.1	155.5	159.1	162.7	165.8	169.4	173.7
162.5°	148.4	148.2	149.5	151.4	153.6	156.2	159.4	162.5	165.1	168.2	171.8
165°	151.5	151.2	151.8	153.6	155.2	157.0	159.7	161.9	163.7	165.8	168.5
167.5°	154.0	153.7	154.2	155.4	156.5	157.6	159.6	161.4	162.3	163.7	165.4
170°	155.8	155.2	155.5	156.4	157.0	157.9	159.4	160.9	161.5	162.5	163.7
172.5°	156.7	156.4	156.2	157.1	157.5	158.2	159.2	160.2	160.6	161.0	162.0
175°	157.9	157.6	157.3	157.9	157.9	158.2	158.8	159.4	159.1	159.4	159.7
177.5°	158.4	157.9	157.7	158.2	158.2	158.2	158.4	158.9	158.4	158.2	158.4
180°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2



TEST NUMBER: P331338-935

CATALOG NUMBER: S122DIP-S675D330U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1
2.5°	910.2	911.8	913.3	914.0	913.6	913.3	913.0	912.7
5°	904.0	905.6	907.1	907.8	907.4	907.0	906.6	906.2
7.5°	893.9	895.4	897.0	897.5	897.1	896.7	896.3	895.9
10°	884.7	886.3	887.9	888.3	887.8	887.2	886.6	886.0
12.5°	873.9	875.0	876.2	876.4	876.0	875.6	875.2	874.8
15°	855.1	855.8	856.6	856.5	855.5	854.5	853.6	852.6
17.5°	832.6	833.4	834.4	834.4	833.4	832.5	831.6	830.6
20°	815.1	815.7	816.2	816.1	815.4	814.6	813.8	813.0
22.5°	796.6	796.7	796.8	796.6	796.2	795.7	795.2	794.8
25°	766.4	766.7	767.2	767.2	766.7	766.4	765.9	765.6
27.5°	736.6	736.1	735.5	734.7	733.7	732.8	731.8	730.9
30°	713.4	712.8	712.2	711.5	710.8	710.0	709.2	708.4
32.5°	690.7	689.7	688.5	687.7	686.9	686.1	685.3	684.5
35°	654.3	653.1	651.9	650.8	649.9	648.8	647.9	646.9
37.5°	617.7	616.2	614.8	613.5	612.6	611.7	610.8	609.8
40°	592.5	590.6	588.9	587.6	586.9	586.1	585.3	584.5
42.5°	567.5	565.6	563.7	562.1	561.0	560.0	558.9	557.8
45°	529.3	527.1	525.0	523.5	522.7	521.9	521.2	520.3
47.5°	489.5	487.2	484.9	483.2	482.1	481.0	479.8	478.7
50°	463.9	461.2	458.4	456.6	455.6	454.6	453.7	452.6
52.5°	437.4	435.1	432.9	431.1	429.8	428.5	427.2	425.9
55°	397.9	395.5	393.2	391.5	390.5	389.6	388.6	387.6
57.5°	356.8	354.5	352.2	350.7	349.9	349.2	348.4	347.7
60°	329.7	327.5	325.4	324.1	323.5	322.9	322.3	321.7
62.5°	304.0	302.0	300.1	298.7	297.9	297.1	296.4	295.7
65°	264.6	262.8	261.1	259.7	258.7	257.7	256.8	255.8
67.5°	225.6	224.3	222.9	221.8	221.0	220.2	219.5	218.7
70°	200.3	199.0	197.6	196.5	195.7	194.9	194.2	193.4
72.5°	176.4	175.0	173.7	172.6	172.0	171.4	170.8	170.1
75°	139.1	138.0	136.8	136.5	136.8	137.2	137.6	138.0
77.5°	105.9	105.3	104.7	104.2	103.6	103.1	102.5	101.9
80°	84.1	83.5	82.9	82.4	82.1	81.6	81.3	80.8
82.5°	62.7	61.9	61.2	60.8	60.7	60.6	60.5	60.4
85°	33.1	32.5	31.9	31.5	31.3	31.2	31.0	30.7
87.5°	10.8	10.2	9.9	9.6	9.5	9.4	9.2	9.0
90°	9.7	9.1	9.7	10.1	10.1	10.1	10.1	10.1
92.5°	26.5	22.7	20.2	18.3	18.1	17.1	17.3	16.9
95°	79.7	61.1	48.4	41.7	37.7	35.3	34.4	34.7
97.5°	186.0	152.1	119.2	97.3	82.7	75.3	70.9	68.3
100°	277.8	240.0	198.4	161.5	136.3	123.2	114.4	108.9
102.5°	337.9	329.3	298.9	259.8	232.4	210.1	199.1	191.7
105°	369.6	404.0	407.9	398.0	379.0	360.2	347.1	342.9
107.5°	346.7	398.6	430.2	444.9	447.3	446.3	443.6	438.0
110°	327.0	381.5	420.4	445.4	458.5	464.3	467.0	466.7





TEST NUMBER: P331338-935

CATALOG NUMBER: S122DIP-S675D330U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	309.0	361.3	402.9	431.5	449.7	459.3	464.5	466.1
115°	286.9	333.7	373.6	404.9	426.5	440.5	448.4	451.2
117.5°	270.2	311.3	347.5	376.9	398.9	413.7	422.0	424.3
120°	261.9	299.6	331.9	359.6	380.9	395.2	404.0	407.1
122.5°	255.4	289.9	320.5	345.4	364.5	378.7	386.5	389.0
125°	245.8	277.2	303.9	326.7	344.4	355.9	363.5	366.0
127.5°	236.3	264.8	290.0	311.0	326.4	337.3	343.8	345.8
130°	230.3	256.5	280.5	300.6	315.5	325.8	331.9	334.3
132.5°	224.5	248.7	270.8	289.6	304.3	314.6	320.2	322.4
135°	216.3	236.3	256.5	273.5	286.5	296.6	302.1	303.3
137.5°	209.8	226.6	242.5	257.4	269.3	277.9	282.8	284.6
140°	205.6	220.2	234.3	247.6	257.4	265.3	269.8	271.6
142.5°	202.2	214.6	226.7	237.9	247.1	254.3	258.4	258.7
145°	197.4	207.5	216.9	225.8	233.0	238.2	241.3	242.1
147.5°	193.7	201.6	209.0	215.4	221.4	225.6	227.6	228.3
150°	191.1	197.8	204.1	209.6	214.1	217.8	219.6	220.0
152.5°	188.4	194.6	200.0	204.7	208.4	211.5	212.8	212.9
155°	184.7	189.5	194.1	197.4	200.8	202.9	204.1	203.5
157.5°	180.4	184.4	188.2	190.9	193.2	195.0	195.5	195.5
160°	177.6	181.0	184.3	186.5	188.6	190.1	190.5	190.5
162.5°	175.0	177.9	180.7	182.4	184.5	185.5	185.8	185.5
165°	171.0	173.1	175.2	176.4	177.6	178.9	178.9	178.6
167.5°	167.1	168.8	170.2	171.3	171.9	172.5	172.5	172.1
170°	165.2	166.1	167.3	167.9	168.2	169.1	168.8	168.2
172.5°	163.0	163.7	164.6	165.0	165.3	165.7	165.4	165.1
175°	160.7	160.9	161.3	161.5	161.5	161.9	161.5	160.9
177.5°	158.9	158.9	159.2	159.2	159.2	159.2	158.9	158.4
180°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2

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