

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: P331353-930

Luminaire Tested: **SA2XXDIP-C675D725U930-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331353-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C675D725U930-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

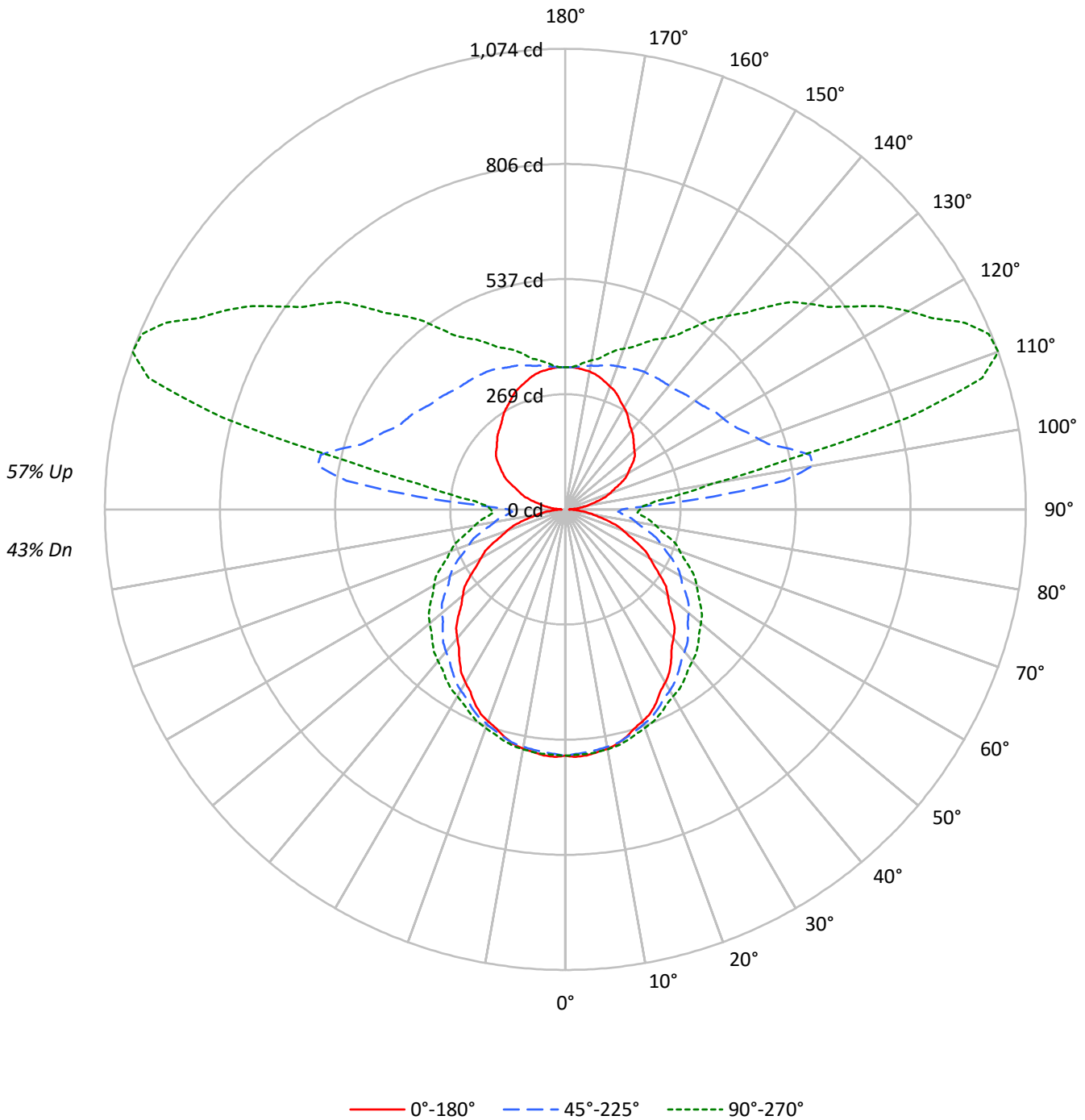
Lumens per Lamp: N/A  
Luminaire Lumens: 4500.1 lumens  
Efficiency: N/A  
Efficacy: 98.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 45.9  
Input Voltage (V): 120  
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



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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	50	30	10	50	30	10	50	30	10	0																			
RCR	0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43	43	43	43	43	43	43	43	43																			
	1	95	90	86	82	86	82	79	75	68	65	63	54	53	51	42	41	40	34	34	34	34	34	34	34	34	34																			
	2	86	78	71	66	78	71	66	61	59	54	51	47	44	41	36	34	32	27	27	27	27	27	27	27	27	27																			
	3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22	22	22	22	22	22	22	22	22																			
	4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19	19	19	19	19	19	19	19	19																			
	5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16	16	16	16	16	16	16	16	16																			
	6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14	14	14	14	14	14	14	14	14																			
	7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	18	15	12	12	12	12	12	12	12	12	12																			
	8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11	11	11	11	11	11	11	11	11																			
	9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10	10	10	10	10	10	10	10	10																			
	10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9	9	9	9	9	9	9	9	9																			

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

	0°	45°	90°
0°	9273	9273	9273
5°	9317	8925	8891
10°	9259	8661	8564
15°	9131	8383	8221
20°	8970	8083	7889
25°	8811	7795	7587
30°	8587	7498	7284
35°	8359	7211	7072
40°	8120	6969	6858
45°	7894	6750	6677
50°	7650	6553	6497
55°	7394	6340	6314
60°	7081	6122	6123
65°	6755	5864	5892
70°	6394	5587	5644
75°	5927	5315	5415
80°	5197	5036	5185
85°	4489	4797	5004



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.4	1.2
10°-20°	156.0	3.5
20°-30°	236.5	5.3
30°-40°	288.0	6.4
40°-50°	309.9	6.9
50°-60°	300.9	6.7
60°-70°	262.7	5.8
70°-80°	202.3	4.5
80°-90°	138.7	3.1
90°-100°	226.0	5.0
100°-110°	518.0	11.5
110°-120°	522.8	11.6
120°-130°	418.4	9.3
130°-140°	326.4	7.3
140°-150°	240.5	5.3
150°-160°	167.7	3.7
160°-170°	98.7	2.2
170°-180°	32.1	0.7
0°-30°	446.9	9.9
0°-40°	734.9	16.3
0°-60°	1345.7	29.9
0°-90°	1949.4	43.3
90°-120°	1266.8	28.2
90°-150°	2252.0	50.0
90°-180°	2551.0	56.7
0°-180°	4500.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	576	573	568	573	573	55
15°	549	551	551	558	558	155
25°	499	505	513	522	525	229
35°	430	445	460	478	484	269
45°	353	376	404	429	439	272
55°	270	301	344	373	384	242
65°	185	226	275	308	320	183
75°	102	149	202	237	249	108
85°	30	82	135	168	181	32
90°	9	66	132	163	174	7
95°	29	101	346	220	210	29
105°	82	147	544	944	828	87
115°	140	187	445	890	1029	139
125°	193	229	408	710	825	171
135°	225	269	385	581	669	174
145°	256	294	374	469	516	161
155°	291	314	363	410	426	134
165°	317	327	347	368	374	89
175°	331	331	334	338	337	31
180°	331	331	331	331	331	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	577.6	577.2	576.7	576.3	575.8	575.1	574.1	573.0	572.0	571.0	571.7
5°	575.9	575.4	574.9	574.3	573.7	572.9	571.8	570.7	569.6	568.4	569.6
7.5°	570.8	570.4	570.1	569.6	569.3	568.7	567.9	567.0	566.1	565.3	566.6
10°	566.8	566.4	566.1	565.7	565.3	564.8	564.3	563.8	563.2	562.6	564.1
12.5°	560.1	560.2	560.3	560.4	560.4	560.3	559.9	559.5	559.1	558.6	560.1
15°	549.3	549.7	550.1	550.4	550.8	551.0	551.0	551.0	551.0	551.0	552.6
17.5°	535.3	536.1	536.9	537.7	538.4	539.2	539.7	540.3	540.9	541.5	543.2
20°	526.0	526.9	527.8	528.8	529.7	530.5	531.2	532.1	532.8	533.5	535.6
22.5°	516.0	517.1	518.2	519.3	520.3	521.4	522.4	523.4	524.5	525.5	527.6
25°	499.4	500.7	502.0	503.3	504.6	506.1	507.7	509.4	511.0	512.7	514.9
27.5°	479.4	481.5	483.6	485.8	487.9	489.9	491.9	493.8	495.8	497.7	500.5
30°	466.1	468.5	470.9	473.3	475.7	478.1	480.5	482.9	485.3	487.7	490.6
32.5°	451.4	454.1	456.8	459.5	462.3	465.0	467.9	470.7	473.5	476.4	479.8
35°	430.3	433.4	436.6	439.7	442.9	446.2	449.7	453.2	456.7	460.2	464.3
37.5°	407.3	411.0	414.6	418.2	421.8	425.9	430.5	435.0	439.5	444.1	448.7
40°	392.0	396.1	400.1	404.2	408.3	412.8	417.8	422.8	427.8	432.8	437.6
42.5°	377.4	381.4	385.5	389.6	393.6	398.5	404.3	410.0	415.7	421.5	426.7
45°	352.9	357.9	362.9	367.9	372.8	378.6	385.1	391.6	398.0	404.5	410.3
47.5°	328.7	334.2	339.7	345.0	350.5	357.0	364.6	372.2	379.8	387.3	393.4
50°	312.1	317.9	323.6	329.3	335.0	342.1	350.4	358.7	367.0	375.4	381.6
52.5°	296.1	302.1	308.2	314.2	320.2	327.7	336.4	345.2	353.9	362.7	369.2
55°	270.5	277.1	283.8	290.5	297.1	305.2	314.9	324.5	334.1	343.7	350.4
57.5°	245.2	252.7	260.2	267.7	275.2	283.9	293.7	303.5	313.3	323.1	330.3
60°	227.2	235.1	243.1	251.1	259.0	268.3	278.8	289.3	299.9	310.5	317.5
62.5°	211.2	219.5	227.7	235.9	244.3	253.6	264.2	274.7	285.3	295.8	303.3
65°	184.7	193.8	202.9	212.0	221.0	231.0	241.9	252.8	263.7	274.7	282.3
67.5°	160.5	169.9	179.4	188.9	198.4	208.6	219.8	231.0	242.1	253.3	261.0
70°	143.2	152.8	162.4	172.0	181.6	192.2	203.7	215.1	226.6	238.1	246.0
72.5°	127.2	137.1	147.0	156.9	166.8	177.6	189.2	200.8	212.5	224.0	231.9
75°	102.4	112.8	123.1	133.5	143.8	154.9	166.7	178.6	190.4	202.3	210.2
77.5°	78.4	89.3	100.1	110.9	121.7	133.2	145.2	157.3	169.3	181.2	189.2
80°	62.5	73.7	85.0	96.3	107.5	119.2	131.3	143.2	155.2	167.3	175.0
82.5°	49.1	60.3	71.3	82.5	93.7	105.3	117.5	129.6	141.8	154.0	161.8
85°	30.0	41.4	52.9	64.3	75.8	87.5	99.3	111.1	123.0	134.9	142.6
87.5°	16.5	27.9	39.4	50.6	62.0	73.8	86.3	99.0	111.5	123.5	130.9
90°	9.0	21.6	34.9	46.9	58.9	72.1	87.1	103.4	119.0	131.5	138.3
92.5°	15.4	28.9	43.5	56.3	70.5	87.2	113.0	144.7	174.1	186.7	181.1
95°	28.9	40.2	55.3	69.7	88.6	113.8	154.2	220.7	305.7	345.5	321.3
97.5°	42.2	53.3	67.8	84.2	103.7	130.2	177.7	265.6	399.1	515.0	542.8
100°	54.9	63.7	76.2	93.3	112.8	139.3	183.4	271.6	419.6	586.7	685.3
102.5°	66.0	73.6	85.6	102.1	121.6	147.6	188.8	268.0	405.5	584.6	735.6
105°	81.9	89.8	99.6	114.5	134.0	159.3	198.9	265.2	380.0	543.8	719.8
107.5°	100.1	106.4	115.0	128.2	146.3	171.0	209.3	268.0	364.1	500.8	656.8
110°	111.7	117.9	125.5	137.5	154.5	179.4	216.5	271.4	358.2	479.5	617.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	122.9	128.6	136.0	146.8	162.8	187.7	223.3	275.3	354.6	463.6	588.2
115°	140.3	145.6	151.4	161.1	175.9	198.3	234.0	281.2	351.3	445.1	551.3
117.5°	157.6	161.5	166.6	174.7	188.3	210.7	243.7	287.9	349.8	432.3	525.3
120°	168.8	172.1	176.7	183.2	196.7	218.6	250.8	292.6	349.1	424.7	510.8
122.5°	179.5	181.9	186.0	192.6	205.6	227.6	257.9	296.7	349.1	418.7	498.0
125°	192.9	194.8	198.6	206.3	219.0	239.8	268.6	303.3	348.7	408.1	478.7
127.5°	204.1	206.4	211.6	219.8	231.9	252.5	279.6	310.1	349.4	400.0	460.9
130°	210.7	213.0	219.2	228.0	240.6	260.2	286.4	314.5	350.3	394.9	449.1
132.5°	216.8	219.7	226.4	235.6	248.7	268.0	292.3	318.9	351.2	390.4	438.9
135°	225.2	227.7	235.4	244.9	259.6	278.3	300.6	324.7	352.1	384.6	424.8
137.5°	233.8	236.8	244.5	254.6	269.1	286.1	307.0	328.6	352.6	379.6	413.4
140°	240.4	242.8	250.3	260.3	274.1	290.8	310.3	330.4	352.5	376.4	406.8
142.5°	247.1	248.9	255.9	266.0	279.2	294.7	313.4	332.7	352.9	375.0	401.3
145°	256.2	258.8	265.1	274.7	287.4	301.4	318.7	336.5	354.3	373.5	395.0
147.5°	266.9	268.8	274.9	283.7	294.3	306.8	323.0	338.7	354.9	371.2	389.1
150°	274.0	276.0	281.0	289.3	298.9	310.4	325.1	339.7	354.3	369.7	384.9
152.5°	281.2	282.1	287.1	294.4	303.5	314.0	327.1	340.2	353.4	367.1	381.4
155°	291.2	291.9	295.7	302.7	309.7	319.3	330.1	341.0	351.8	362.6	374.7
157.5°	299.7	300.3	303.4	309.5	315.1	323.1	332.3	341.0	348.9	358.1	368.5
160°	305.2	305.9	308.4	313.6	318.7	325.6	333.3	341.0	347.3	355.0	363.9
162.5°	310.9	310.5	313.1	317.2	321.7	327.2	333.9	340.5	345.8	352.5	359.8
165°	317.4	316.7	318.0	321.9	325.1	328.9	334.6	339.1	342.9	347.3	353.1
167.5°	322.8	322.0	323.1	325.5	327.8	330.3	334.4	338.2	340.0	342.9	346.4
170°	326.3	325.1	325.6	327.6	328.9	330.8	333.9	337.1	338.4	340.3	342.9
172.5°	328.3	327.6	327.2	329.1	329.9	331.3	333.5	335.6	336.4	337.3	339.3
175°	330.8	330.1	329.5	330.8	330.8	331.4	332.6	333.9	333.3	333.9	334.6
177.5°	331.9	330.9	330.4	331.4	331.4	331.4	331.9	333.0	331.9	331.4	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	572.4	573.2	573.9	574.1	573.8	573.6	573.2	573.0
5°	570.7	571.8	572.9	573.4	573.2	573.0	572.8	572.6
7.5°	567.9	569.3	570.6	571.2	571.0	570.8	570.6	570.5
10°	565.6	567.0	568.6	569.2	569.0	568.8	568.7	568.4
12.5°	561.6	563.0	564.6	565.2	565.0	564.8	564.7	564.4
15°	554.3	556.0	557.7	558.4	558.2	558.0	557.8	557.7
17.5°	544.9	546.7	548.5	549.3	549.3	549.3	549.3	549.3
20°	537.6	539.6	541.6	542.7	542.7	542.7	542.7	542.7
22.5°	529.6	531.7	533.6	534.8	535.1	535.4	535.7	536.0
25°	517.1	519.3	521.5	522.9	523.5	524.1	524.6	525.2
27.5°	503.4	506.1	509.0	510.5	510.9	511.4	511.8	512.2
30°	493.7	496.6	499.5	501.3	501.9	502.5	503.0	503.5
32.5°	483.2	486.7	490.0	492.2	493.3	494.2	495.2	496.2
35°	468.4	472.5	476.5	479.2	480.5	481.8	483.1	484.4
37.5°	453.1	457.6	462.2	465.1	466.5	467.8	469.2	470.6
40°	442.4	447.2	452.0	455.3	456.9	458.6	460.2	461.9
42.5°	431.9	437.2	442.5	446.0	447.6	449.3	450.9	452.6
45°	416.0	421.7	427.5	431.2	433.1	435.0	436.8	438.6
47.5°	399.3	405.4	411.3	415.3	417.4	419.4	421.4	423.5
50°	387.9	394.2	400.6	404.7	406.8	408.8	410.7	412.8
52.5°	375.6	382.0	388.5	392.8	394.9	397.1	399.3	401.5
55°	357.0	363.7	370.4	374.9	377.3	379.7	382.1	384.5
57.5°	337.5	344.6	351.8	356.6	359.1	361.5	363.9	366.4
60°	324.5	331.5	338.6	343.4	345.9	348.5	351.1	353.8
62.5°	310.7	318.2	325.7	330.7	333.0	335.5	337.9	340.4
65°	289.8	297.4	305.0	310.0	312.4	314.8	317.2	319.6
67.5°	268.6	276.3	284.0	289.1	291.6	294.1	296.6	299.1
70°	254.0	261.9	269.9	274.9	277.1	279.4	281.6	283.8
72.5°	239.7	247.4	255.3	260.5	263.2	265.9	268.5	271.2
75°	218.2	226.1	234.1	239.2	241.7	244.0	246.5	248.8
77.5°	197.1	205.0	213.0	218.2	220.8	223.4	225.9	228.5
80°	182.8	190.6	198.4	203.6	206.1	208.7	211.3	213.9
82.5°	169.5	177.2	185.1	190.1	192.6	195.0	197.5	199.9
85°	150.3	158.2	165.9	171.0	173.7	176.3	178.9	181.4
87.5°	138.4	145.6	153.4	158.5	160.9	163.3	165.7	168.0
90°	145.0	151.2	159.9	165.3	167.5	169.7	171.9	174.1
92.5°	174.0	173.3	175.2	175.9	177.7	177.9	180.6	181.8
95°	276.7	244.9	225.2	215.7	209.7	206.8	207.2	210.0
97.5°	491.9	427.9	365.7	324.2	296.0	282.5	275.3	272.1
100°	678.8	606.6	526.1	453.5	402.6	377.2	360.8	351.3
102.5°	799.8	788.6	731.5	654.1	598.7	553.9	532.9	519.3
105°	858.8	937.3	952.1	935.3	897.9	860.4	835.0	828.1
107.5°	803.6	918.3	990.8	1025.7	1032.7	1032.7	1029.2	1019.4
110°	757.7	877.8	965.2	1021.4	1050.9	1065.0	1072.8	1074.2





TEST NUMBER: P331353-930

CATALOG NUMBER: SA2XXDIP-C675D725U930-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	715.3	830.7	923.8	987.7	1027.8	1050.2	1063.1	1068.5
115°	662.0	765.7	854.8	924.2	971.5	1002.8	1021.4	1029.2
117.5°	620.1	711.8	793.0	858.2	906.2	939.1	958.5	965.2
120°	598.2	682.4	755.1	816.8	863.4	895.4	915.9	924.3
122.5°	580.2	657.6	726.6	782.4	824.1	855.3	873.5	880.6
125°	553.3	623.9	684.9	736.1	774.7	800.6	818.2	824.9
127.5°	526.7	590.7	648.2	695.4	729.2	753.6	768.9	774.6
130°	509.6	568.9	623.7	668.7	701.4	724.6	738.7	745.3
132.5°	493.1	548.1	598.7	641.1	673.3	696.4	709.6	715.8
135°	470.0	516.0	562.0	600.3	629.2	651.8	664.6	668.7
137.5°	450.6	489.2	526.0	559.5	585.7	605.0	616.4	621.4
140°	438.4	472.0	504.3	534.3	555.8	573.5	584.2	589.1
142.5°	428.8	457.1	484.7	509.9	530.2	546.2	555.7	557.4
145°	415.8	438.0	458.9	478.3	494.6	506.3	513.6	516.5
147.5°	406.2	422.9	438.5	452.2	465.3	474.4	479.2	480.8
150°	400.2	414.3	427.6	439.1	448.7	456.3	460.2	460.8
152.5°	394.6	407.6	419.0	428.9	436.4	443.0	445.9	446.0
155°	386.9	397.1	406.6	413.6	420.6	425.1	427.6	426.4
157.5°	377.8	386.4	394.4	399.8	404.8	408.5	409.7	409.7
160°	372.2	379.2	386.2	390.7	395.2	398.4	398.9	398.9
162.5°	366.6	372.6	378.5	382.0	386.5	388.7	389.3	388.7
165°	358.2	362.6	367.1	369.7	372.2	374.7	374.7	374.1
167.5°	350.2	353.6	356.6	359.0	360.1	361.5	361.3	360.6
170°	346.1	348.0	350.5	351.8	352.5	354.3	353.7	352.5
172.5°	341.4	342.9	345.0	345.7	346.3	347.2	346.6	345.8
175°	336.5	337.1	337.8	338.4	338.4	339.1	338.4	337.1
177.5°	333.0	333.0	333.5	333.5	333.5	333.5	333.0	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4

(END OF REPORT)