

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: P331336-927

Luminaire Tested: **SA2XXDIP-C675D330U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331336-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C675D330U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3178.0 lumens
Efficiency: N/A
Efficacy: 90.8 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

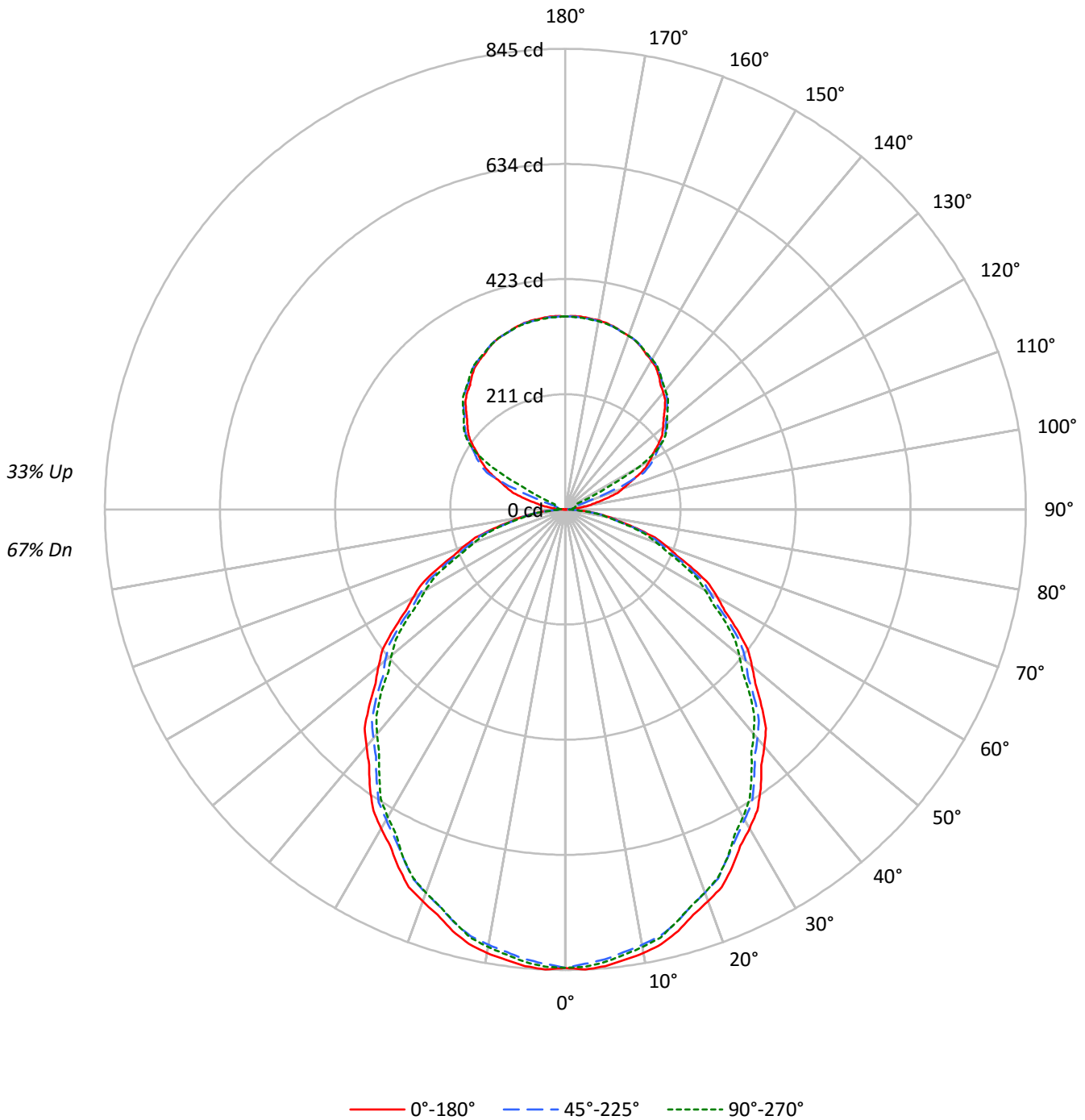
Input Watts (W): 35
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331336-927

CATALOG NUMBER: SA2XXDIP-C675D330U927-4F0-1E-UDD-F

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	72	72	72	67
1	102	97	93	90	96	92	88	85	82	79	77	72	70	68	64	62	61	57
2	93	85	79	73	87	80	75	70	72	67	63	64	60	57	56	54	51	48
3	85	75	67	61	79	71	64	58	63	58	53	56	52	48	50	46	44	40
4	77	66	58	52	73	63	55	50	56	50	46	50	45	42	44	41	38	35
5	71	59	51	45	67	56	49	43	50	44	39	45	40	36	40	36	33	30
6	66	53	45	39	62	51	43	37	45	39	35	41	36	32	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	31	37	32	28	33	29	26	23
8	56	44	36	30	53	42	34	29	38	32	27	34	29	25	31	26	23	21
9	53	40	32	27	50	38	31	26	35	29	24	31	26	23	28	24	21	19
10	49	37	29	24	47	35	28	24	32	26	22	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13580	13580	13580
5°	13632	13434	13514
10°	13550	13298	13365
15°	13382	13125	13112
20°	13144	12866	12854
25°	12909	12549	12549
30°	12603	12258	12152
35°	12321	11907	11732
40°	11965	11556	11335
45°	11615	11209	10930
50°	11233	10846	10462
55°	10835	10427	10038
60°	10395	9923	9558
65°	9918	9425	8993
70°	9314	8818	8398
75°	8478	8122	7923
80°	7522	7290	6918
85°	6150	5835	5243



TEST NUMBER: P331336-927

CATALOG NUMBER: SA2XXDIP-C675D330U927-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	2.5
10°-20°	222.5	7.0
20°-30°	327.1	10.3
30°-40°	379.9	12.0
40°-50°	379.5	11.9
50°-60°	331.0	10.4
60°-70°	244.7	7.7
70°-80°	138.6	4.4
80°-90°	38.1	1.2
90°-100°	11.8	0.4
100°-110°	43.3	1.4
110°-120°	115.7	3.6
120°-130°	191.1	6.0
130°-140°	203.2	6.4
140°-150°	188.9	5.9
150°-160°	151.8	4.8
160°-170°	97.8	3.1
170°-180°	33.7	1.1
0°-30°	628.7	19.8
0°-40°	1008.6	31.7
0°-60°	1719.1	54.1
0°-90°	2140.6	67.4
90°-120°	170.8	5.4
90°-150°	754.0	23.7
90°-180°	1037.0	32.6
0°-180°	3178.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	841	841	841	841	841	
5°	841	838	829	835	834	80
15°	801	795	785	788	784	225
25°	725	718	704	706	704	333
35°	625	617	604	599	595	390
45°	509	503	491	482	479	392
55°	385	380	370	361	357	344
65°	260	254	247	240	235	257
75°	136	134	130	126	127	145
85°	33	32	32	29	28	38
90°	0	3	5	6	7	2
95°	17	9	10	11	11	20
105°	78	81	16	18	20	83
115°	147	152	158	45	21	145
125°	208	212	216	218	219	186
135°	258	262	264	266	266	199
145°	299	299	303	305	304	187
155°	329	327	330	331	329	152
165°	347	345	346	348	346	98
175°	355	353	354	355	353	34
180°	354	354	354	354	354	



TEST NUMBER: P331336-927

CATALOG NUMBER: SA2XXDIP-C675D330U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1
2.5°	844.9	844.2	843.5	842.8	842.1	840.9	839.3	837.7	836.1	834.6	836.0
5°	841.1	840.3	839.6	838.9	838.2	836.9	834.9	832.9	830.9	828.9	830.4
7.5°	833.6	832.5	831.4	830.3	829.2	827.6	825.6	823.6	821.6	819.5	820.9
10°	826.5	825.2	823.9	822.7	821.5	819.8	817.6	815.5	813.3	811.1	812.5
12.5°	816.8	815.7	814.5	813.4	812.3	810.7	808.5	806.4	804.2	802.1	803.1
15°	800.6	799.5	798.4	797.4	796.3	794.6	792.3	789.9	787.6	785.2	786.0
17.5°	779.9	778.8	777.8	776.7	775.6	773.9	771.5	769.1	766.8	764.4	765.2
20°	765.0	764.0	762.9	761.8	760.7	758.9	756.4	753.9	751.4	748.8	749.4
22.5°	750.1	748.6	747.1	745.6	744.1	742.2	739.8	737.4	735.1	732.7	732.8
25°	724.6	723.2	721.8	720.3	718.8	716.6	713.5	710.5	707.4	704.4	704.7
27.5°	695.5	694.2	692.9	691.6	690.3	688.5	686.0	683.7	681.2	678.8	678.3
30°	676.0	674.6	673.2	671.8	670.3	668.3	665.6	662.9	660.2	657.5	657.0
32.5°	655.4	654.2	653.1	651.9	650.8	648.8	645.9	643.1	640.2	637.4	636.4
35°	625.1	623.4	621.5	619.7	617.9	615.6	612.8	609.8	607.0	604.1	603.0
37.5°	591.0	589.4	587.8	586.2	584.7	582.4	579.6	576.7	573.9	570.9	569.6
40°	567.7	566.3	564.8	563.4	562.0	559.8	556.9	554.1	551.2	548.3	546.7
42.5°	545.1	543.6	542.2	540.7	539.3	537.2	534.2	531.4	528.5	525.7	523.9
45°	508.7	507.4	506.1	504.9	503.7	501.7	499.0	496.3	493.6	490.9	488.9
47.5°	472.5	471.3	470.1	468.9	467.7	465.7	462.9	460.1	457.3	454.5	452.4
50°	447.2	446.3	445.4	444.5	443.6	441.9	439.4	436.9	434.4	431.8	429.4
52.5°	422.6	421.4	420.3	419.1	417.9	416.1	413.8	411.4	409.0	406.6	404.6
55°	384.9	383.9	382.8	381.7	380.6	379.0	376.8	374.7	372.6	370.4	368.2
57.5°	347.1	346.3	345.4	344.5	343.6	342.1	339.7	337.3	334.9	332.6	330.4
60°	321.9	321.2	320.4	319.7	319.0	317.3	314.9	312.4	309.8	307.3	305.3
62.5°	297.3	296.1	295.0	293.8	292.7	291.1	289.2	287.2	285.3	283.4	281.5
65°	259.6	258.5	257.5	256.4	255.2	253.8	252.1	250.3	248.4	246.7	245.0
67.5°	221.3	220.4	219.5	218.6	217.8	216.6	214.9	213.3	211.8	210.1	208.8
70°	197.3	196.6	195.9	195.2	194.5	193.3	191.6	190.0	188.5	186.8	185.5
72.5°	172.8	172.0	171.3	170.6	169.8	169.0	167.9	166.9	165.9	164.8	163.6
75°	135.9	135.5	135.1	134.8	134.4	133.8	132.9	132.0	131.1	130.2	129.1
77.5°	102.9	102.3	101.6	101.0	100.4	100.0	99.6	99.2	98.9	98.5	98.0
80°	80.9	80.7	80.5	80.3	80.2	79.9	79.5	79.1	78.8	78.4	77.9
82.5°	60.2	60.1	60.1	60.0	60.0	59.9	59.7	59.5	59.3	59.0	58.4
85°	33.2	33.0	32.8	32.6	32.4	32.2	32.1	31.9	31.7	31.5	31.0
87.5°	11.7	11.6	11.4	11.2	11.0	10.9	10.7	10.5	10.3	10.1	9.7
90°	0.2	0.9	1.5	2.1	2.8	3.3	3.7	4.2	4.7	5.1	5.4
92.5°	5.1	5.1	5.1	5.0	4.9	5.1	5.2	5.5	5.7	5.9	6.1
95°	16.6	14.7	12.9	11.0	9.1	8.4	8.8	9.2	9.6	10.0	10.3
97.5°	33.0	27.7	22.4	17.2	11.9	9.7	10.6	11.5	12.4	13.4	13.6
100°	45.3	37.5	29.7	21.9	14.2	10.7	11.7	12.7	13.6	14.6	15.1
102.5°	58.9	57.2	55.5	53.9	52.3	47.4	39.3	31.2	23.1	15.0	15.6
105°	77.9	79.5	81.3	83.0	84.7	77.8	62.3	46.7	31.1	15.6	16.2
107.5°	99.5	100.9	102.3	103.7	105.0	96.4	77.8	59.2	40.5	21.9	21.2
110°	113.4	114.6	115.9	117.1	118.3	110.6	94.2	77.7	61.2	44.8	39.1



TEST NUMBER: P331336-927

CATALOG NUMBER: SA2XXDIP-C675D330U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	126.6	127.6	128.7	129.8	130.8	129.3	125.2	121.2	117.1	113.0	92.3
115°	147.3	148.2	149.2	150.2	151.1	152.3	153.8	155.2	156.6	158.0	131.7
117.5°	165.8	166.8	167.9	169.1	170.1	171.1	172.1	173.1	174.0	175.1	168.7
120°	179.3	180.1	181.0	181.9	182.7	183.6	184.7	185.7	186.7	187.7	188.5
122.5°	190.8	191.7	192.6	193.5	194.4	195.4	196.5	197.6	198.8	199.9	200.3
125°	208.3	209.0	209.7	210.5	211.2	212.1	213.2	214.3	215.3	216.4	216.8
127.5°	224.0	224.9	225.7	226.6	227.4	228.1	228.9	229.8	230.6	231.4	232.0
130°	234.1	235.0	235.9	236.9	237.7	238.5	239.2	239.8	240.4	241.1	241.6
132.5°	244.4	245.1	245.9	246.7	247.5	248.1	248.7	249.4	250.0	250.6	251.2
135°	257.7	258.6	259.5	260.4	261.3	262.1	262.5	263.1	263.6	264.1	264.7
137.5°	271.2	271.8	272.4	273.1	273.7	274.3	274.9	275.4	276.1	276.6	277.2
140°	280.0	280.4	280.8	281.3	281.8	282.3	283.0	283.6	284.2	284.8	285.3
142.5°	287.3	287.7	288.1	288.6	289.0	289.5	290.3	291.0	291.7	292.4	292.9
145°	298.9	298.9	298.8	298.7	298.7	299.1	300.1	301.1	302.1	303.0	303.4
147.5°	309.0	308.8	308.6	308.3	308.2	308.5	309.4	310.5	311.4	312.4	312.6
150°	315.5	315.1	314.7	314.3	313.9	314.3	315.1	316.1	317.0	317.9	318.2
152.5°	321.1	320.7	320.2	319.7	319.3	319.5	320.4	321.2	322.1	323.0	323.3
155°	329.2	328.6	328.1	327.6	327.1	327.2	327.9	328.5	329.2	329.9	330.3
157.5°	335.4	335.0	334.5	334.1	333.7	333.7	334.2	334.7	335.2	335.6	336.0
160°	339.1	338.8	338.4	338.1	337.8	337.8	338.1	338.4	338.8	339.1	339.5
162.5°	342.4	342.1	341.7	341.4	341.0	341.0	341.3	341.6	341.9	342.2	342.6
165°	346.8	346.5	346.1	345.8	345.5	345.4	345.5	345.7	345.9	346.0	346.4
167.5°	350.1	349.7	349.4	349.0	348.7	348.6	348.8	349.0	349.1	349.3	349.7
170°	352.0	351.6	351.3	350.9	350.5	350.5	350.5	350.7	350.8	350.9	351.3
172.5°	353.2	352.8	352.4	352.1	351.8	351.6	351.8	351.9	352.0	352.1	352.5
175°	354.7	354.3	353.9	353.6	353.2	353.0	353.2	353.2	353.4	353.5	353.9
177.5°	355.0	354.7	354.3	354.0	353.7	353.6	353.6	353.7	353.7	353.8	354.1
180°	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9



TEST NUMBER: P331336-927

CATALOG NUMBER: SA2XXDIP-C675D330U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1
2.5°	837.4	838.9	840.3	840.9	840.6	840.3	840.0	839.8
5°	831.8	833.2	834.6	835.2	834.9	834.5	834.2	833.8
7.5°	822.4	823.9	825.3	825.8	825.4	825.1	824.7	824.3
10°	814.0	815.5	816.9	817.3	816.8	816.3	815.7	815.2
12.5°	804.1	805.1	806.1	806.4	806.0	805.6	805.3	804.9
15°	786.7	787.4	788.1	788.1	787.1	786.2	785.4	784.4
17.5°	766.0	766.8	767.7	767.7	766.8	766.0	765.1	764.2
20°	750.0	750.5	751.0	750.9	750.2	749.5	748.8	748.1
22.5°	732.9	733.0	733.1	732.9	732.5	732.1	731.7	731.3
25°	705.1	705.4	705.8	705.8	705.4	705.1	704.7	704.4
27.5°	677.7	677.2	676.7	676.0	675.1	674.2	673.4	672.5
30°	656.4	655.8	655.3	654.7	653.9	653.2	652.5	651.8
32.5°	635.5	634.5	633.5	632.7	632.0	631.3	630.5	629.8
35°	602.0	600.9	599.8	598.8	597.9	597.0	596.1	595.2
37.5°	568.3	567.0	565.6	564.5	563.6	562.8	562.0	561.1
40°	545.1	543.4	541.9	540.7	540.0	539.2	538.5	537.8
42.5°	522.1	520.4	518.6	517.2	516.2	515.2	514.2	513.2
45°	487.0	485.0	483.0	481.6	480.9	480.2	479.5	478.7
47.5°	450.4	448.2	446.2	444.6	443.5	442.5	441.5	440.5
50°	426.8	424.3	421.8	420.1	419.1	418.3	417.4	416.5
52.5°	402.4	400.4	398.3	396.6	395.5	394.3	393.1	391.9
55°	366.1	363.9	361.8	360.2	359.3	358.5	357.5	356.6
57.5°	328.3	326.1	324.1	322.7	321.9	321.3	320.6	319.9
60°	303.3	301.3	299.4	298.2	297.6	297.1	296.5	296.0
62.5°	279.7	277.9	276.1	274.8	274.1	273.4	272.7	272.0
65°	243.4	241.8	240.2	238.9	238.1	237.1	236.2	235.4
67.5°	207.6	206.4	205.1	204.1	203.4	202.6	201.9	201.2
70°	184.3	183.1	181.8	180.8	180.1	179.4	178.6	177.9
72.5°	162.3	161.1	159.8	158.8	158.3	157.7	157.2	156.5
75°	128.0	127.0	125.9	125.6	125.9	126.3	126.6	127.0
77.5°	97.4	96.9	96.3	95.9	95.3	94.8	94.3	93.8
80°	77.4	76.8	76.3	75.8	75.5	75.1	74.8	74.4
82.5°	57.7	57.0	56.3	55.9	55.8	55.8	55.7	55.6
85°	30.5	29.9	29.4	29.0	28.8	28.7	28.5	28.3
87.5°	9.3	9.0	8.6	8.3	8.2	8.1	8.0	7.8
90°	5.7	5.9	6.3	6.5	6.6	6.7	6.8	6.9
92.5°	6.3	6.4	6.5	6.7	6.7	6.8	6.8	6.9
95°	10.5	10.9	11.1	11.2	11.2	11.1	11.1	11.0
97.5°	13.9	14.0	14.3	14.4	14.5	14.6	14.7	14.7
100°	15.5	16.0	16.4	16.7	16.8	17.0	17.0	17.2
102.5°	16.2	16.8	17.3	17.7	17.9	18.1	18.2	18.4
105°	16.9	17.5	18.1	18.5	18.8	19.0	19.3	19.5
107.5°	20.6	20.0	19.3	19.1	19.3	19.6	19.8	20.0
110°	33.4	27.7	22.0	19.3	19.6	19.8	20.0	20.2



TEST NUMBER: P331336-927

CATALOG NUMBER: SA2XXDIP-C675D330U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	71.5	50.8	30.0	19.7	19.9	20.0	20.3	20.4
115°	105.4	79.0	52.6	37.4	33.3	29.2	25.1	21.0
117.5°	162.3	155.9	149.6	139.7	126.2	112.7	99.3	85.8
120°	189.1	189.8	190.4	187.0	179.3	171.6	163.9	156.2
122.5°	200.7	201.1	201.5	200.9	199.5	198.0	196.5	195.0
125°	217.2	217.6	218.0	218.3	218.5	218.6	218.8	219.0
127.5°	232.6	233.1	233.7	234.0	234.1	234.1	234.1	234.2
130°	242.2	242.9	243.5	243.8	243.8	243.7	243.7	243.6
132.5°	251.8	252.2	252.8	253.0	252.9	252.9	252.9	252.8
135°	265.2	265.8	266.3	266.6	266.5	266.3	266.3	266.1
137.5°	277.7	278.3	278.8	279.0	278.8	278.7	278.5	278.3
140°	285.8	286.4	286.8	287.0	286.7	286.5	286.1	285.8
142.5°	293.3	293.8	294.3	294.4	294.1	293.8	293.5	293.2
145°	303.8	304.2	304.6	304.7	304.4	304.1	303.8	303.5
147.5°	312.9	313.2	313.5	313.5	313.3	313.1	312.8	312.6
150°	318.5	318.9	319.2	319.2	319.0	318.7	318.4	318.1
152.5°	323.7	324.0	324.3	324.3	323.9	323.6	323.2	322.8
155°	330.6	330.9	331.3	331.2	330.7	330.3	329.9	329.4
157.5°	336.4	336.8	337.2	337.2	336.7	336.3	335.8	335.4
160°	339.8	340.2	340.5	340.5	340.1	339.7	339.3	338.9
162.5°	342.9	343.3	343.7	343.7	343.2	342.7	342.2	341.7
165°	346.8	347.2	347.6	347.6	347.2	346.8	346.4	346.0
167.5°	350.1	350.5	350.9	350.8	350.3	349.7	349.3	348.7
170°	351.7	352.1	352.5	352.4	352.0	351.4	350.9	350.4
172.5°	352.9	353.3	353.7	353.7	353.2	352.7	352.1	351.6
175°	354.3	354.7	355.1	355.0	354.4	353.9	353.2	352.7
177.5°	354.4	354.7	355.1	355.0	354.6	354.2	353.8	353.4
180°	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9

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