

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: P331333

Luminaire Tested: **SA2XXDIP-C675D330U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331333
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-C675D330U835-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

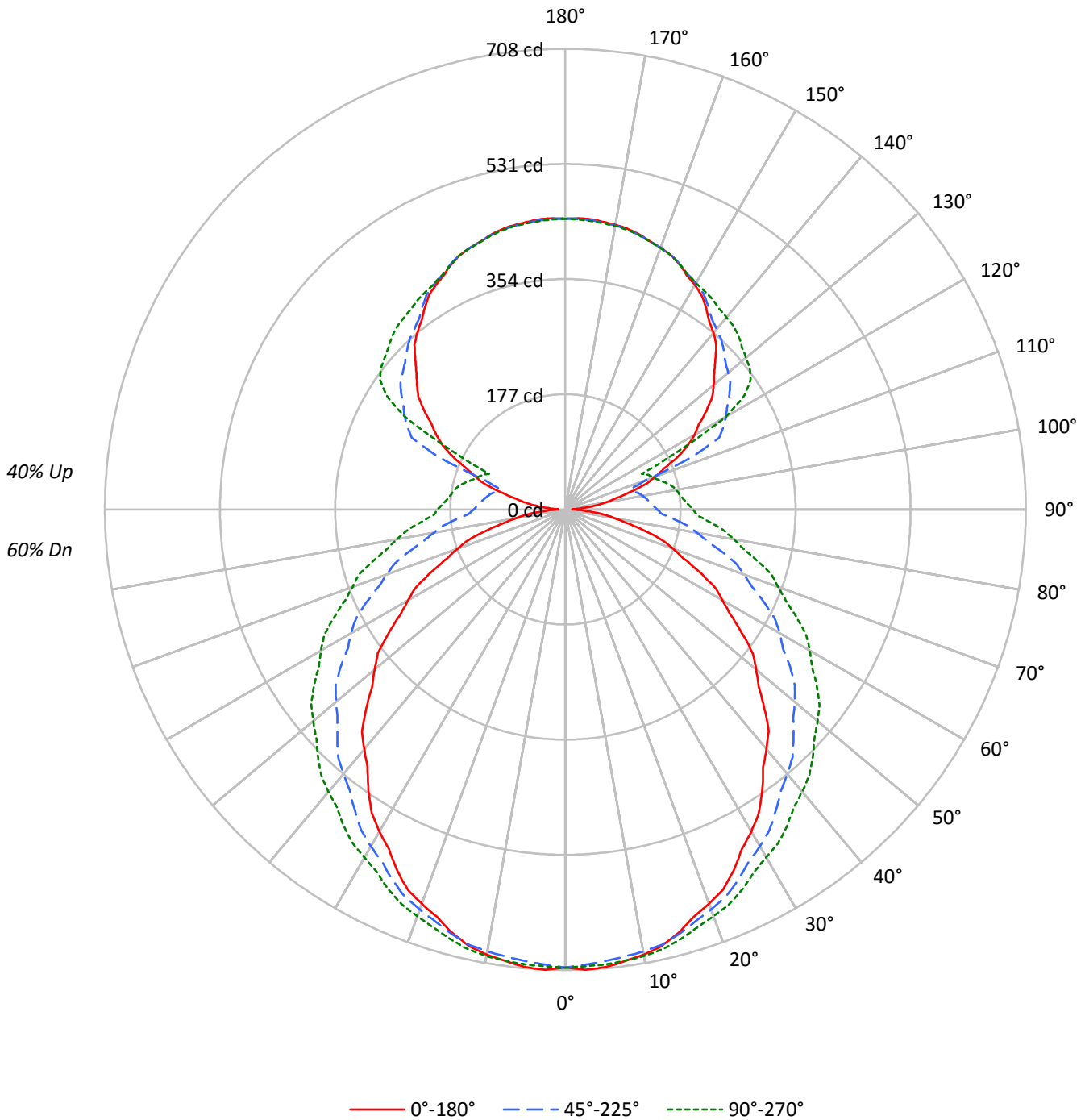
Lumens per Lamp: N/A
Luminaire Lumens: 3997.9 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 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



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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	0
RCR																		
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	98	93	88	84	91	87	83	79	75	72	69	65	62	60	55	53	51	47
2	89	80	73	67	82	75	69	63	65	60	56	56	52	49	47	44	42	38
3	80	70	62	55	75	65	58	52	57	51	46	49	44	40	41	38	35	31
4	73	62	53	46	68	58	50	44	50	44	39	43	38	34	36	33	30	26
5	67	55	46	39	62	51	43	37	45	38	33	38	33	29	33	29	25	22
6	62	49	40	34	57	46	38	32	40	34	29	35	29	26	30	25	22	19
7	57	44	36	30	53	41	34	28	36	30	25	31	26	22	27	23	20	17
8	53	40	32	26	49	38	30	25	33	27	22	29	24	20	25	21	17	15
9	49	36	29	23	46	34	27	22	30	24	20	26	21	18	23	19	16	14
10	46	33	26	21	43	32	25	20	28	22	18	24	20	16	21	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11373	11373	11373
5°	11428	10947	10905
10°	11356	10624	10504
15°	11200	10282	10083
20°	11002	9915	9676
25°	10807	9560	9307
30°	10532	9197	8935
35°	10254	8846	8673
40°	9960	8547	8413
45°	9681	8279	8190
50°	9382	8037	7969
55°	9070	7777	7745
60°	8686	7508	7509
65°	8287	7191	7227
70°	7841	6852	6923
75°	7270	6518	6643
80°	6370	6177	6361
85°	5506	5882	6138



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.7	1.7
10°-20°	191.4	4.8
20°-30°	290.0	7.3
30°-40°	353.3	8.8
40°-50°	380.0	9.5
50°-60°	369.1	9.2
60°-70°	322.3	8.1
70°-80°	248.1	6.2
80°-90°	167.6	4.2
90°-100°	129.6	3.2
100°-110°	138.4	3.5
110°-120°	201.4	5.0
120°-130°	272.1	6.8
130°-140°	269.4	6.7
140°-150°	240.7	6.0
150°-160°	191.7	4.8
160°-170°	123.5	3.1
170°-180°	42.5	1.1
0°-30°	548.2	13.7
0°-40°	901.4	22.5
0°-60°	1650.6	41.3
0°-90°	2388.5	59.7
90°-120°	469.5	11.7
90°-150°	1251.6	31.3
90°-180°	1609.0	40.2
0°-180°	3997.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	704	704	704	704	704	
5°	706	703	697	703	702	67
15°	674	676	676	684	684	190
25°	612	620	629	641	644	281
35°	528	545	564	586	594	330
45°	433	461	496	527	538	334
55°	332	369	422	457	472	297
65°	227	277	337	377	392	225
75°	126	183	248	290	305	133
85°	37	100	165	207	222	40
90°	10	74	141	182	197	8
95°	29	68	130	169	182	32
105°	103	139	108	145	159	111
115°	190	209	261	148	130	187
125°	265	271	308	337	348	236
135°	326	332	345	368	377	252
145°	377	377	382	391	394	236
155°	416	413	416	418	416	191
165°	438	436	437	439	437	124
175°	448	446	446	448	445	43
180°	447	447	447	447	447	



TEST NUMBER: P331333

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	708.5	707.9	707.4	706.8	706.3	705.4	704.1	702.8	701.6	700.3	701.2
5°	706.4	705.7	705.1	704.4	703.7	702.7	701.3	700.0	698.6	697.2	698.6
7.5°	700.1	699.6	699.2	698.7	698.3	697.5	696.5	695.4	694.4	693.4	695.0
10°	695.2	694.7	694.3	693.8	693.4	692.8	692.1	691.5	690.8	690.1	691.9
12.5°	687.0	687.1	687.2	687.3	687.4	687.2	686.7	686.2	685.7	685.2	687.0
15°	673.8	674.2	674.7	675.1	675.6	675.8	675.8	675.8	675.8	675.8	677.8
17.5°	656.6	657.6	658.5	659.5	660.4	661.3	662.0	662.7	663.4	664.2	666.3
20°	645.2	646.3	647.4	648.6	649.7	650.7	651.6	652.6	653.5	654.4	656.9
22.5°	632.9	634.2	635.6	636.9	638.2	639.5	640.8	642.0	643.3	644.6	647.1
25°	612.5	614.1	615.7	617.3	618.9	620.7	622.7	624.8	626.8	628.8	631.6
27.5°	588.0	590.6	593.2	595.8	598.4	600.9	603.3	605.7	608.1	610.5	613.9
30°	571.7	574.6	577.6	580.5	583.5	586.4	589.4	592.3	595.3	598.2	601.8
32.5°	553.7	557.0	560.3	563.6	567.0	570.4	573.9	577.3	580.8	584.3	588.5
35°	527.8	531.6	535.5	539.3	543.2	547.3	551.6	555.9	560.2	564.5	569.5
37.5°	499.6	504.1	508.5	512.9	517.4	522.4	528.0	533.6	539.1	544.7	550.3
40°	480.8	485.8	490.8	495.8	500.8	506.3	512.5	518.6	524.7	530.8	536.7
42.5°	462.9	467.8	472.8	477.8	482.8	488.8	495.9	502.9	509.9	517.0	523.4
45°	432.8	439.0	445.1	451.2	457.3	464.4	472.3	480.3	488.2	496.1	503.2
47.5°	403.2	409.9	416.6	423.2	429.9	437.9	447.2	456.5	465.8	475.1	482.5
50°	382.8	389.9	396.9	403.9	410.9	419.6	429.8	440.0	450.2	460.4	468.1
52.5°	363.2	370.6	378.0	385.4	392.8	401.9	412.6	423.4	434.1	444.9	452.8
55°	331.8	339.9	348.1	356.3	364.4	374.4	386.2	398.0	409.8	421.6	429.8
57.5°	300.7	310.0	319.2	328.4	337.6	348.2	360.2	372.2	384.3	396.3	405.1
60°	278.7	288.4	298.2	308.0	317.7	329.1	342.0	354.9	367.8	380.8	389.4
62.5°	259.1	269.2	279.3	289.4	299.6	311.1	324.0	336.9	349.9	362.8	372.0
65°	226.6	237.7	248.9	260.0	271.1	283.3	296.7	310.1	323.5	336.9	346.2
67.5°	196.8	208.4	220.1	231.7	243.3	255.9	269.6	283.3	297.0	310.7	320.1
70°	175.6	187.4	199.2	211.0	222.8	235.7	249.8	263.8	277.9	292.0	301.7
72.5°	156.0	168.1	180.3	192.5	204.6	217.8	232.1	246.3	260.6	274.8	284.4
75°	125.6	138.3	151.0	163.7	176.4	190.0	204.5	219.0	233.5	248.1	257.8
77.5°	96.2	109.5	122.8	136.0	149.3	163.4	178.1	192.9	207.6	222.3	232.1
80°	76.6	90.4	104.2	118.1	131.9	146.2	161.0	175.7	190.4	205.2	214.7
82.5°	60.2	73.9	87.5	101.2	114.9	129.1	144.1	159.0	173.9	188.9	198.4
85°	36.8	50.8	64.9	78.9	93.0	107.3	121.8	136.3	150.9	165.4	174.9
87.5°	20.1	33.8	47.4	61.1	74.8	88.9	103.6	118.2	132.8	147.5	156.8
90°	10.5	24.5	38.4	52.4	66.3	80.8	95.9	111.0	126.1	141.2	150.7
92.5°	15.9	28.1	40.3	52.5	64.6	77.9	92.1	106.4	120.6	134.9	144.0
95°	29.2	37.5	45.8	54.1	62.3	73.6	87.7	101.8	115.9	130.0	139.0
97.5°	48.9	51.7	54.5	57.3	60.1	68.6	82.8	97.0	111.3	125.5	134.2
100°	64.4	62.9	61.5	60.0	58.6	64.8	78.7	92.7	106.6	120.5	129.5
102.5°	80.6	86.2	91.8	97.4	103.0	106.8	108.9	111.1	113.2	115.3	124.3
105°	103.4	112.1	120.9	129.6	138.3	138.8	131.0	123.2	115.3	107.5	116.2
107.5°	130.5	137.5	144.5	151.6	158.6	155.9	143.7	131.5	119.3	107.0	113.9
110°	147.3	153.4	159.4	165.5	171.5	169.7	160.1	150.4	140.8	131.1	131.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	163.9	169.0	174.2	179.3	184.5	189.8	195.2	200.6	206.1	211.5	192.6
115°	190.0	193.7	197.4	201.1	204.9	212.7	224.7	236.7	248.7	260.7	234.3
117.5°	212.3	215.3	218.3	221.3	224.3	231.2	241.8	252.5	263.2	273.8	272.5
120°	229.4	231.4	233.4	235.3	237.3	243.5	253.9	264.2	274.6	285.0	292.2
122.5°	243.9	245.4	246.9	248.4	249.9	255.6	265.5	275.5	285.4	295.3	302.0
125°	264.9	265.8	266.8	267.7	268.6	273.4	282.0	290.7	299.3	307.9	314.6
127.5°	284.9	285.7	286.5	287.3	288.1	292.0	298.8	305.7	312.6	319.5	325.8
130°	297.6	298.5	299.4	300.3	301.3	304.5	310.0	315.6	321.2	326.7	332.9
132.5°	310.5	311.2	312.0	312.7	313.5	316.1	320.6	325.0	329.5	334.0	339.9
135°	326.3	327.4	328.6	329.7	330.9	332.9	335.8	338.8	341.7	344.6	350.1
137.5°	343.3	344.1	344.8	345.6	346.3	347.6	349.3	351.0	352.8	354.5	359.4
140°	354.4	354.8	355.1	355.5	355.8	356.6	357.9	359.1	360.3	361.6	365.9
142.5°	363.7	364.0	364.3	364.6	364.9	365.5	366.5	367.5	368.5	369.5	373.0
145°	377.3	377.3	377.2	377.1	377.0	377.6	378.8	380.1	381.3	382.5	384.4
147.5°	390.1	389.8	389.5	389.2	389.0	389.4	390.6	391.9	393.1	394.3	394.8
150°	398.3	397.8	397.3	396.8	396.3	396.7	397.8	399.0	400.1	401.3	401.7
152.5°	405.3	404.8	404.2	403.6	403.1	403.3	404.4	405.5	406.6	407.7	408.1
155°	415.5	414.8	414.2	413.5	412.9	413.0	413.9	414.7	415.6	416.4	416.9
157.5°	423.4	422.9	422.3	421.8	421.2	421.3	421.9	422.5	423.1	423.7	424.2
160°	428.1	427.7	427.2	426.8	426.4	426.4	426.8	427.2	427.7	428.1	428.5
162.5°	432.2	431.8	431.4	430.9	430.5	430.5	430.8	431.2	431.6	432.0	432.5
165°	437.8	437.4	436.9	436.5	436.1	436.0	436.2	436.4	436.6	436.8	437.3
167.5°	441.9	441.5	441.1	440.6	440.2	440.1	440.3	440.5	440.7	440.9	441.4
170°	444.3	443.8	443.4	443.0	442.5	442.4	442.5	442.7	442.8	443.0	443.5
172.5°	445.8	445.4	444.9	444.5	444.1	443.9	444.1	444.2	444.4	444.5	445.0
175°	447.8	447.3	446.8	446.3	445.8	445.6	445.8	445.9	446.1	446.2	446.7
177.5°	448.1	447.7	447.3	446.9	446.5	446.4	446.4	446.5	446.5	446.6	447.0
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8



TEST NUMBER: P331333

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	702.1	703.0	703.9	704.2	703.8	703.5	703.1	702.8
5°	700.0	701.3	702.7	703.3	703.0	702.8	702.6	702.3
7.5°	696.6	698.3	699.9	700.6	700.4	700.1	699.9	699.7
10°	693.7	695.5	697.4	698.1	697.9	697.7	697.5	697.2
12.5°	688.8	690.6	692.5	693.2	693.0	692.8	692.6	692.3
15°	679.9	681.9	684.0	684.9	684.7	684.4	684.2	684.0
17.5°	668.4	670.6	672.7	673.8	673.8	673.8	673.8	673.8
20°	659.4	661.9	664.3	665.6	665.6	665.6	665.6	665.6
22.5°	649.6	652.1	654.5	656.0	656.3	656.7	657.1	657.4
25°	634.3	637.0	639.7	641.4	642.1	642.8	643.5	644.2
27.5°	617.4	620.8	624.3	626.2	626.7	627.2	627.7	628.2
30°	605.5	609.1	612.7	614.9	615.6	616.3	616.9	617.6
32.5°	592.7	596.9	601.0	603.7	605.0	606.2	607.4	608.6
35°	574.5	579.5	584.5	587.8	589.4	591.0	592.5	594.1
37.5°	555.8	561.3	566.9	570.5	572.2	573.8	575.5	577.2
40°	542.6	548.5	554.4	558.4	560.4	562.5	564.5	566.6
42.5°	529.8	536.3	542.7	547.0	549.0	551.1	553.1	555.1
45°	510.2	517.2	524.3	528.9	531.2	533.5	535.7	538.0
47.5°	489.8	497.2	504.5	509.4	511.9	514.4	516.9	519.4
50°	475.8	483.5	491.3	496.4	498.9	501.4	503.8	506.3
52.5°	460.7	468.6	476.5	481.8	484.4	487.1	489.8	492.5
55°	437.9	446.1	454.3	459.8	462.8	465.7	468.7	471.6
57.5°	413.9	422.7	431.5	437.4	440.4	443.4	446.4	449.4
60°	398.0	406.6	415.3	421.2	424.3	427.5	430.7	433.9
62.5°	381.1	390.3	399.5	405.6	408.5	411.5	414.5	417.5
65°	355.5	364.8	374.1	380.2	383.2	386.1	389.1	392.0
67.5°	329.5	338.9	348.3	354.6	357.6	360.7	363.8	366.9
70°	311.5	321.2	331.0	337.2	339.9	342.7	345.4	348.1
72.5°	294.0	303.5	313.1	319.5	322.8	326.1	329.3	332.6
75°	267.6	277.3	287.1	293.4	296.4	299.3	302.3	305.2
77.5°	241.8	251.5	261.2	267.6	270.8	274.0	277.1	280.3
80°	224.2	233.8	243.3	249.7	252.8	256.0	259.2	262.4
82.5°	207.9	217.4	227.0	233.2	236.2	239.2	242.2	245.2
85°	184.4	194.0	203.5	209.8	213.0	216.2	219.4	222.5
87.5°	166.1	175.5	184.8	190.9	193.9	196.8	199.7	202.6
90°	160.1	169.5	179.0	185.1	188.0	190.8	193.7	196.6
92.5°	153.1	162.1	171.2	177.2	180.0	182.8	185.6	188.4
95°	148.0	156.9	165.9	171.7	174.4	177.0	179.7	182.3
97.5°	142.9	151.5	160.2	165.9	168.7	171.5	174.2	177.0
100°	138.5	147.4	156.4	162.2	164.8	167.5	170.1	172.7
102.5°	133.2	142.2	151.2	157.0	159.7	162.4	165.1	167.8
105°	125.0	133.7	142.4	148.2	151.0	153.8	156.5	159.3
107.5°	120.7	127.5	134.3	139.1	141.9	144.7	147.5	150.2
110°	131.3	131.3	131.4	132.8	135.6	138.4	141.2	144.0



TEST NUMBER: P331333

CATALOG NUMBER: SA2XXDIP-C675D330U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	173.6	154.7	135.7	127.6	130.3	133.1	135.8	138.5
115°	207.8	181.4	154.9	140.3	137.7	135.0	132.3	129.6
117.5°	271.2	269.8	268.5	260.5	245.8	231.1	216.4	201.8
120°	299.4	306.6	313.8	313.8	306.6	299.4	292.2	285.0
122.5°	308.7	315.4	322.1	325.6	325.8	326.1	326.3	326.6
125°	321.2	327.8	334.4	338.9	341.1	343.4	345.6	347.9
127.5°	332.2	338.5	344.9	349.1	351.1	353.2	355.2	357.2
130°	339.2	345.4	351.7	355.6	357.4	359.1	360.9	362.6
132.5°	345.8	351.8	357.7	361.6	363.3	365.0	366.8	368.5
135°	355.5	361.0	366.5	370.1	371.8	373.4	375.1	376.8
137.5°	364.3	369.1	374.0	377.1	378.4	379.7	381.0	382.3
140°	370.1	374.4	378.7	381.3	382.3	383.3	384.3	385.3
142.5°	376.5	380.0	383.5	385.6	386.5	387.3	388.1	388.9
145°	386.2	388.1	390.0	391.3	392.0	392.8	393.6	394.4
147.5°	395.4	395.9	396.5	396.9	397.1	397.4	397.6	397.9
150°	402.1	402.5	403.0	403.0	402.7	402.3	401.9	401.6
152.5°	408.6	409.0	409.4	409.4	408.9	408.5	408.0	407.5
155°	417.3	417.7	418.2	418.1	417.5	417.0	416.4	415.8
157.5°	424.7	425.2	425.6	425.6	425.0	424.5	423.9	423.4
160°	429.0	429.4	429.8	429.8	429.3	428.8	428.3	427.8
162.5°	432.9	433.4	433.9	433.9	433.2	432.6	432.0	431.4
165°	437.8	438.3	438.8	438.8	438.3	437.8	437.3	436.8
167.5°	441.9	442.4	442.9	442.8	442.2	441.5	440.9	440.2
170°	444.0	444.5	445.0	444.9	444.3	443.6	443.0	442.3
172.5°	445.5	446.0	446.5	446.5	445.8	445.2	444.5	443.9
175°	447.2	447.7	448.2	448.1	447.4	446.7	445.9	445.2
177.5°	447.4	447.8	448.2	448.1	447.6	447.1	446.6	446.1
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8

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