

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: FAIL-SAFE

Report Number: P

Luminaire Tested: **4APN-X-22L830-UNV-NP**

Issue Date: 06/06/2024



Test Information

Test Method: LM-79-08
Report Number: P
Test Lab: INNOVATION CENTER(G2)
Issue Date: 06/06/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-22L830-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/ Nature Pattern Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

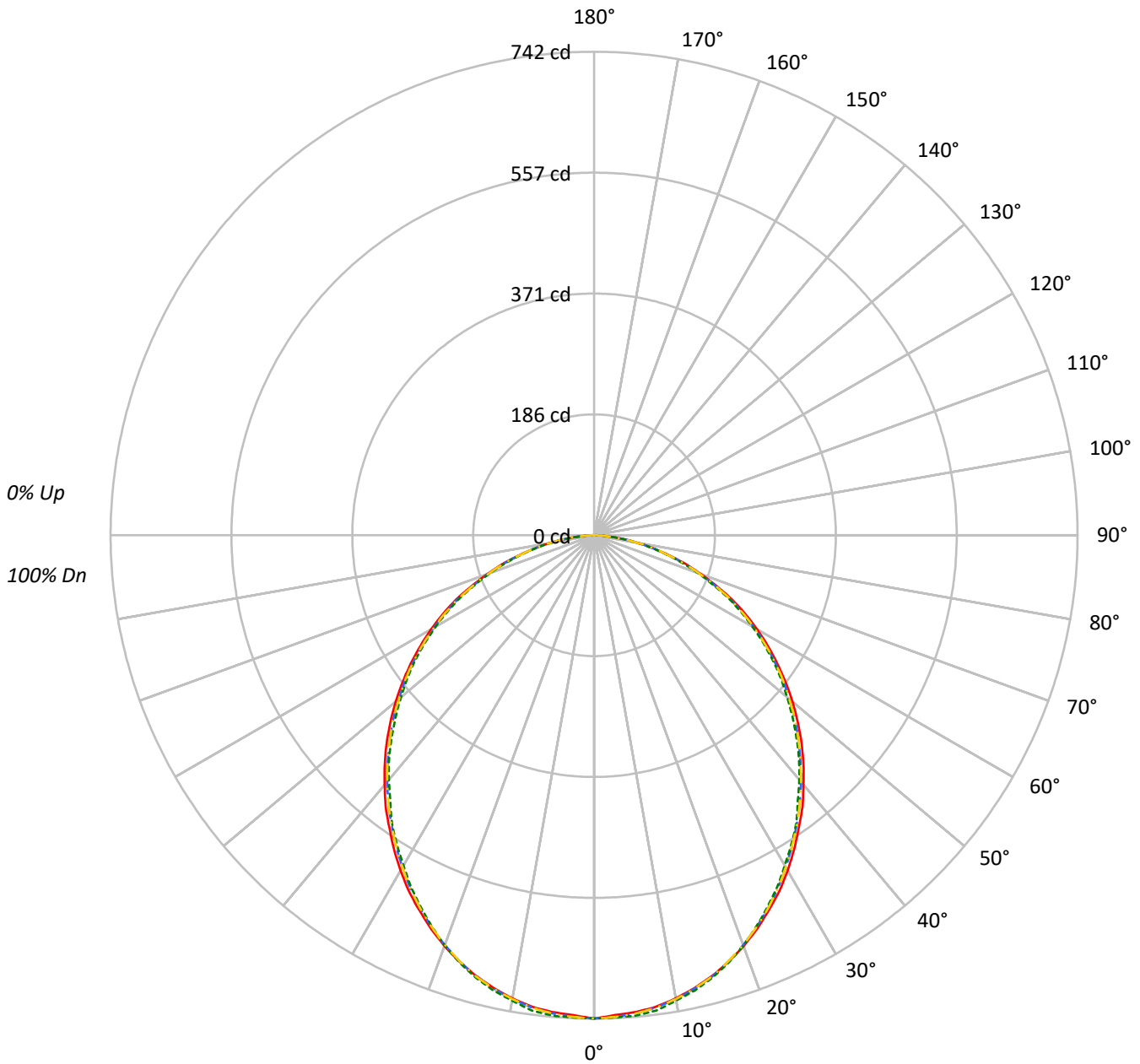
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1929.7 lumens
Efficiency: N/A
Efficacy: 80.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 24
Input Voltage (V): 120
Input Current (A_{in}): 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



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	73	73	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	62	62	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	53	53	53	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	46	46	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	41	41	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	36	36	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	33	33	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	30	30	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	6843	6843	6843	6843
5°	6803	6853	6803	6853
10°	6761	6795	6761	6795
15°	6686	6712	6686	6712
20°	6588	6579	6588	6579
25°	6462	6407	6462	6407
30°	6328	6232	6328	6232
35°	6171	6090	6171	6090
40°	6021	5902	6021	5902
45°	5873	5731	5873	5731
50°	5707	5550	5707	5550
55°	5522	5390	5522	5390
60°	5331	5180	5331	5180
65°	5100	4943	5100	4943
70°	4715	4570	4715	4570
75°	4263	4132	4263	4132
80°	3655	3560	3655	3560
85°	2784	2784	2784	2784



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.0	3.6
10°-20°	197.7	10.2
20°-30°	291.4	15.1
30°-40°	340.1	17.6
40°-50°	342.9	17.8
50°-60°	303.1	15.7
60°-70°	226.6	11.7
70°-80°	125.6	6.5
80°-90°	32.2	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	559.0	29.0
0°-40°	899.2	46.6
0°-60°	1545.2	80.1
0°-90°	1929.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1929.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	742	742	742	742	742	
5°	734	740	734	740	734	70
15°	700	703	700	703	700	197
25°	635	629	635	629	635	293
35°	548	541	548	541	548	343
45°	450	439	450	439	450	347
55°	343	335	343	335	343	307
65°	234	226	234	226	234	230
75°	120	116	120	116	120	127
85°	26	26	26	26	26	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7
2.5°	737.1	740.7	744.4	743.5	740.7	739.0	739.9	739.9	740.7	740.7	740.7
5°	734.5	738.1	740.7	739.9	737.1	736.2	736.2	736.2	738.1	739.9	738.1
7.5°	729.9	732.6	735.4	734.5	731.7	730.8	730.8	731.7	733.5	735.4	733.5
10°	721.7	725.3	728.1	726.3	723.6	721.7	721.7	721.7	723.6	725.3	723.6
12.5°	711.8	714.6	717.2	716.3	713.6	711.8	711.8	711.8	713.6	715.4	713.6
15°	700.0	702.7	705.4	704.6	701.8	700.0	700.0	700.0	701.8	702.7	701.8
17.5°	686.4	689.2	691.9	690.0	686.4	684.6	684.6	684.6	686.4	687.4	686.4
20°	671.0	673.8	675.5	673.8	670.1	668.4	667.4	667.4	669.3	670.1	669.3
22.5°	653.9	655.6	657.5	655.6	652.0	650.2	649.3	648.4	649.3	650.2	649.3
25°	634.8	636.6	638.5	636.6	633.0	630.3	629.4	628.5	629.4	629.4	629.4
27.5°	615.8	616.7	618.5	615.8	612.2	609.4	608.5	607.7	608.5	608.5	608.5
30°	594.0	595.0	596.8	594.0	589.5	586.9	585.9	585.0	585.0	585.0	585.0
32.5°	571.5	573.2	575.1	571.5	566.9	564.2	563.2	562.4	563.2	563.2	563.2
35°	547.9	548.8	550.6	547.9	543.3	540.7	538.8	537.9	539.7	540.7	539.7
37.5°	525.3	526.2	527.0	524.3	519.8	517.1	515.3	514.4	513.5	513.5	513.5
40°	499.9	500.8	502.6	499.9	495.4	492.6	490.9	490.0	490.0	490.0	490.0
42.5°	475.5	476.3	477.2	474.6	470.0	467.3	465.5	464.6	465.5	465.5	465.5
45°	450.1	450.1	451.0	448.3	444.7	441.9	440.2	439.2	439.2	439.2	439.2
47.5°	423.8	424.8	425.6	422.9	419.3	416.6	414.8	413.0	413.0	413.0	413.0
50°	397.6	397.6	398.5	395.7	392.1	389.4	388.5	387.6	386.7	386.7	386.7
52.5°	370.4	371.3	372.2	369.4	366.8	364.0	362.3	361.3	361.3	361.3	361.3
55°	343.3	343.3	344.1	342.3	339.6	336.9	335.1	334.1	335.1	335.1	335.1
57.5°	316.1	317.0	317.9	315.1	312.5	309.7	308.8	307.9	307.9	307.9	307.9
60°	288.9	288.9	289.8	287.9	285.3	282.5	281.7	280.7	280.7	280.7	280.7
62.5°	261.8	261.8	262.6	260.8	258.1	255.4	254.5	253.6	253.6	253.6	253.6
65°	233.6	233.6	233.6	231.8	230.0	229.1	228.2	227.3	226.4	226.4	226.4
67.5°	202.8	202.8	203.8	201.9	200.2	199.2	198.3	197.4	196.5	196.5	196.5
70°	174.8	174.8	175.6	174.8	173.0	172.0	171.1	170.3	169.4	169.4	169.4
72.5°	147.6	147.6	147.6	146.7	145.8	144.9	144.0	143.1	142.2	142.2	142.2
75°	119.6	119.6	120.4	119.6	118.7	117.7	116.8	116.8	115.9	115.9	115.9
77.5°	93.3	94.1	95.1	94.1	93.3	92.4	91.5	91.5	90.5	90.5	90.5
80°	68.8	69.7	70.6	69.7	68.8	68.0	67.0	67.0	67.0	67.0	67.0
82.5°	46.2	47.1	48.0	47.1	46.2	46.2	45.3	45.3	45.3	45.3	45.3
85°	26.3	27.2	28.0	28.0	27.2	27.2	26.3	26.3	26.3	26.3	26.3
87.5°	10.0	10.9	11.8	11.8	10.9	10.9	10.9	10.9	10.9	10.9	10.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7
2.5°	739.9	739.9	739.0	740.7	743.5	744.4	740.7	737.1	740.7	744.4	743.5
5°	736.2	736.2	736.2	737.1	739.9	740.7	738.1	734.5	738.1	740.7	739.9
7.5°	731.7	730.8	730.8	731.7	734.5	735.4	732.6	729.9	732.6	735.4	734.5
10°	721.7	721.7	721.7	723.6	726.3	728.1	725.3	721.7	725.3	728.1	726.3
12.5°	711.8	711.8	711.8	713.6	716.3	717.2	714.6	711.8	714.6	717.2	716.3
15°	700.0	700.0	700.0	701.8	704.6	705.4	702.7	700.0	702.7	705.4	704.6
17.5°	684.6	684.6	684.6	686.4	690.0	691.9	689.2	686.4	689.2	691.9	690.0
20°	667.4	667.4	668.4	670.1	673.8	675.5	673.8	671.0	673.8	675.5	673.8
22.5°	648.4	649.3	650.2	652.0	655.6	657.5	655.6	653.9	655.6	657.5	655.6
25°	628.5	629.4	630.3	633.0	636.6	638.5	636.6	634.8	636.6	638.5	636.6
27.5°	607.7	608.5	609.4	612.2	615.8	618.5	616.7	615.8	616.7	618.5	615.8
30°	585.0	585.9	586.9	589.5	594.0	596.8	595.0	594.0	595.0	596.8	594.0
32.5°	562.4	563.2	564.2	566.9	571.5	575.1	573.2	571.5	573.2	575.1	571.5
35°	537.9	538.8	540.7	543.3	547.9	550.6	548.8	547.9	548.8	550.6	547.9
37.5°	514.4	515.3	517.1	519.8	524.3	527.0	526.2	525.3	526.2	527.0	524.3
40°	490.0	490.9	492.6	495.4	499.9	502.6	500.8	499.9	500.8	502.6	499.9
42.5°	464.6	465.5	467.3	470.0	474.6	477.2	476.3	475.5	476.3	477.2	474.6
45°	439.2	440.2	441.9	444.7	448.3	451.0	450.1	450.1	450.1	451.0	448.3
47.5°	413.0	414.8	416.6	419.3	422.9	425.6	424.8	423.8	424.8	425.6	422.9
50°	387.6	388.5	389.4	392.1	395.7	398.5	397.6	397.6	397.6	398.5	395.7
52.5°	361.3	362.3	364.0	366.8	369.4	372.2	371.3	370.4	371.3	372.2	369.4
55°	334.1	335.1	336.9	339.6	342.3	344.1	343.3	343.3	343.3	344.1	342.3
57.5°	307.9	308.8	309.7	312.5	315.1	317.9	317.0	316.1	317.0	317.9	315.1
60°	280.7	281.7	282.5	285.3	287.9	289.8	288.9	288.9	288.9	289.8	287.9
62.5°	253.6	254.5	255.4	258.1	260.8	262.6	261.8	261.8	261.8	262.6	260.8
65°	227.3	228.2	229.1	230.0	231.8	233.6	233.6	233.6	233.6	233.6	231.8
67.5°	197.4	198.3	199.2	200.2	201.9	203.8	202.8	202.8	202.8	203.8	201.9
70°	170.3	171.1	172.0	173.0	174.8	175.6	174.8	174.8	174.8	175.6	174.8
72.5°	143.1	144.0	144.9	145.8	146.7	147.6	147.6	147.6	147.6	147.6	146.7
75°	116.8	116.8	117.7	118.7	119.6	120.4	119.6	119.6	119.6	120.4	119.6
77.5°	91.5	91.5	92.4	93.3	94.1	95.1	94.1	93.3	94.1	95.1	94.1
80°	67.0	67.0	68.0	68.8	69.7	70.6	69.7	68.8	69.7	70.6	69.7
82.5°	45.3	45.3	46.2	46.2	47.1	48.0	47.1	46.2	47.1	48.0	47.1
85°	26.3	26.3	27.2	27.2	28.0	28.0	27.2	26.3	27.2	28.0	28.0
87.5°	10.9	10.9	10.9	10.9	11.8	11.8	10.9	10.0	10.9	11.8	11.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7	741.7
2.5°	740.7	739.0	739.9	739.9	740.7	740.7	740.7	739.9	739.9	739.0	740.7
5°	737.1	736.2	736.2	736.2	738.1	739.9	738.1	736.2	736.2	736.2	737.1
7.5°	731.7	730.8	730.8	731.7	733.5	735.4	733.5	731.7	730.8	730.8	731.7
10°	723.6	721.7	721.7	721.7	723.6	725.3	723.6	721.7	721.7	721.7	723.6
12.5°	713.6	711.8	711.8	711.8	713.6	715.4	713.6	711.8	711.8	711.8	713.6
15°	701.8	700.0	700.0	700.0	701.8	702.7	701.8	700.0	700.0	700.0	701.8
17.5°	686.4	684.6	684.6	684.6	686.4	687.4	686.4	684.6	684.6	684.6	686.4
20°	670.1	668.4	667.4	667.4	669.3	670.1	669.3	667.4	667.4	668.4	670.1
22.5°	652.0	650.2	649.3	648.4	649.3	650.2	649.3	648.4	649.3	650.2	652.0
25°	633.0	630.3	629.4	628.5	629.4	629.4	629.4	628.5	629.4	630.3	633.0
27.5°	612.2	609.4	608.5	607.7	608.5	608.5	608.5	607.7	608.5	609.4	612.2
30°	589.5	586.9	585.9	585.0	585.0	585.0	585.0	585.0	585.9	586.9	589.5
32.5°	566.9	564.2	563.2	562.4	563.2	563.2	563.2	562.4	563.2	564.2	566.9
35°	543.3	540.7	538.8	537.9	539.7	540.7	539.7	537.9	538.8	540.7	543.3
37.5°	519.8	517.1	515.3	514.4	513.5	513.5	513.5	514.4	515.3	517.1	519.8
40°	495.4	492.6	490.9	490.0	490.0	490.0	490.0	490.0	490.9	492.6	495.4
42.5°	470.0	467.3	465.5	464.6	465.5	465.5	465.5	464.6	465.5	467.3	470.0
45°	444.7	441.9	440.2	439.2	439.2	439.2	439.2	439.2	440.2	441.9	444.7
47.5°	419.3	416.6	414.8	413.0	413.0	413.0	413.0	413.0	414.8	416.6	419.3
50°	392.1	389.4	388.5	387.6	386.7	386.7	386.7	387.6	388.5	389.4	392.1
52.5°	366.8	364.0	362.3	361.3	361.3	361.3	361.3	361.3	362.3	364.0	366.8
55°	339.6	336.9	335.1	334.1	335.1	335.1	335.1	334.1	335.1	336.9	339.6
57.5°	312.5	309.7	308.8	307.9	307.9	307.9	307.9	307.9	308.8	309.7	312.5
60°	285.3	282.5	281.7	280.7	280.7	280.7	280.7	280.7	281.7	282.5	285.3
62.5°	258.1	255.4	254.5	253.6	253.6	253.6	253.6	254.5	255.4	258.1	
65°	230.0	229.1	228.2	227.3	226.4	226.4	226.4	227.3	228.2	229.1	230.0
67.5°	200.2	199.2	198.3	197.4	196.5	196.5	196.5	197.4	198.3	199.2	200.2
70°	173.0	172.0	171.1	170.3	169.4	169.4	169.4	170.3	171.1	172.0	173.0
72.5°	145.8	144.9	144.0	143.1	142.2	142.2	142.2	143.1	144.0	144.9	145.8
75°	118.7	117.7	116.8	116.8	115.9	115.9	115.9	116.8	116.8	117.7	118.7
77.5°	93.3	92.4	91.5	91.5	90.5	90.5	90.5	91.5	91.5	92.4	93.3
80°	68.8	68.0	67.0	67.0	67.0	67.0	67.0	67.0	67.0	68.0	68.8
82.5°	46.2	46.2	45.3	45.3	45.3	45.3	45.3	45.3	45.3	46.2	46.2
85°	27.2	27.2	26.3	26.3	26.3	26.3	26.3	26.3	26.3	27.2	27.2
87.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	741.7	741.7	741.7	741.7
2.5°	743.5	744.4	740.7	737.1
5°	739.9	740.7	738.1	734.5
7.5°	734.5	735.4	732.6	729.9
10°	726.3	728.1	725.3	721.7
12.5°	716.3	717.2	714.6	711.8
15°	704.6	705.4	702.7	700.0
17.5°	690.0	691.9	689.2	686.4
20°	673.8	675.5	673.8	671.0
22.5°	655.6	657.5	655.6	653.9
25°	636.6	638.5	636.6	634.8
27.5°	615.8	618.5	616.7	615.8
30°	594.0	596.8	595.0	594.0
32.5°	571.5	575.1	573.2	571.5
35°	547.9	550.6	548.8	547.9
37.5°	524.3	527.0	526.2	525.3
40°	499.9	502.6	500.8	499.9
42.5°	474.6	477.2	476.3	475.5
45°	448.3	451.0	450.1	450.1
47.5°	422.9	425.6	424.8	423.8
50°	395.7	398.5	397.6	397.6
52.5°	369.4	372.2	371.3	370.4
55°	342.3	344.1	343.3	343.3
57.5°	315.1	317.9	317.0	316.1
60°	287.9	289.8	288.9	288.9
62.5°	260.8	262.6	261.8	261.8
65°	231.8	233.6	233.6	233.6
67.5°	201.9	203.8	202.8	202.8
70°	174.8	175.6	174.8	174.8
72.5°	146.7	147.6	147.6	147.6
75°	119.6	120.4	119.6	119.6
77.5°	94.1	95.1	94.1	93.3
80°	69.7	70.6	69.7	68.8
82.5°	47.1	48.0	47.1	46.2
85°	28.0	28.0	27.2	26.3
87.5°	11.8	11.8	10.9	10.0
90°	0.0	0.0	0.0	0.0

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