

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: P709095

Luminaire Tested: **4APN-X-22L935-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709095
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-22L935-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

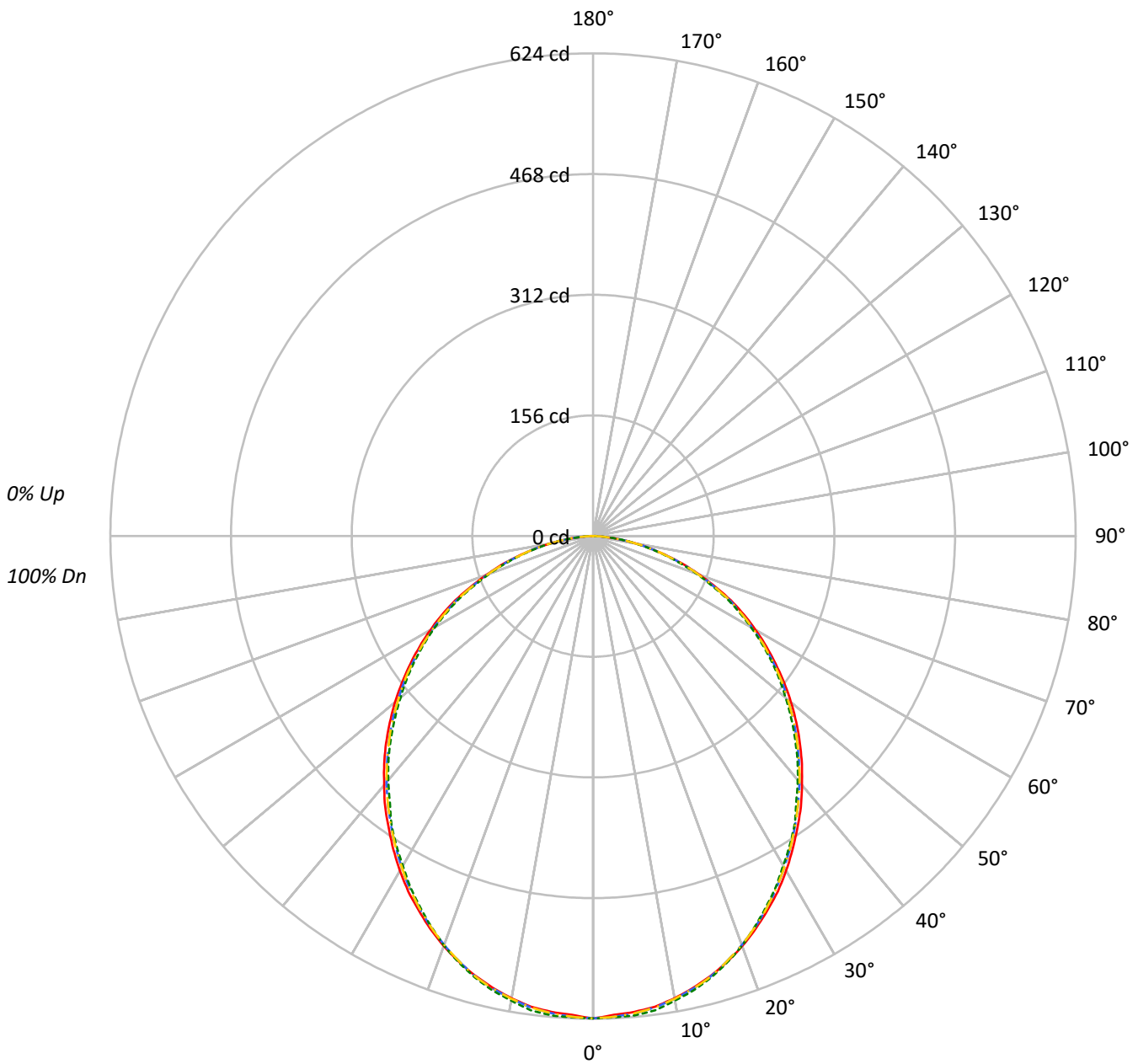
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1622.0 lumens
Efficiency: N/A
Efficacy: 67.6 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 (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



— 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°	5753	5753	5753	5753
5°	5718	5760	5718	5760
10°	5684	5713	5684	5713
15°	5620	5642	5620	5642
20°	5539	5531	5539	5531
25°	5432	5386	5432	5386
30°	5320	5239	5320	5239
35°	5187	5119	5187	5119
40°	5061	4960	5061	4960
45°	4936	4817	4936	4817
50°	4797	4665	4797	4665
55°	4641	4531	4641	4531
60°	4480	4355	4480	4355
65°	4288	4154	4288	4154
70°	3963	3841	3963	3841
75°	3583	3472	3583	3472
80°	3076	2991	3076	2991
85°	2339	2339	2339	2339



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.8	3.6
10°-20°	166.2	10.2
20°-30°	244.9	15.1
30°-40°	285.9	17.6
40°-50°	288.3	17.8
50°-60°	254.8	15.7
60°-70°	190.5	11.7
70°-80°	105.6	6.5
80°-90°	27.1	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°	469.9	29.0
0°-40°	755.8	46.6
0°-60°	1298.9	80.1
0°-90°	1622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1622.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	624	624	624	624	624	
5°	617	622	617	622	617	59
15°	588	591	588	591	588	166
25°	534	529	534	529	534	246
35°	460	454	460	454	460	288
45°	378	369	378	369	378	292
55°	288	282	288	282	288	258
65°	196	190	196	190	196	193
75°	100	97	100	97	100	107
85°	22	22	22	22	22	27
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°	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5
2.5°	619.6	622.7	625.7	625.0	622.7	621.2	621.9	621.9	622.7	622.7	622.7
5°	617.4	620.4	622.7	621.9	619.6	618.9	618.9	618.9	620.4	621.9	620.4
7.5°	613.6	615.8	618.1	617.4	615.1	614.3	614.3	615.1	616.6	618.1	616.6
10°	606.7	609.8	612.0	610.5	608.2	606.7	606.7	606.7	608.2	609.8	608.2
12.5°	598.3	600.6	602.9	602.1	599.9	598.3	598.3	598.3	599.9	601.4	599.9
15°	588.4	590.7	593.0	592.2	590.0	588.4	588.4	588.4	590.0	590.7	590.0
17.5°	577.0	579.3	581.6	580.1	577.0	575.5	575.5	575.5	577.0	577.8	577.0
20°	564.1	566.4	567.9	566.4	563.3	561.8	561.0	561.0	562.6	563.3	562.6
22.5°	549.6	551.1	552.7	551.1	548.1	546.6	545.8	545.0	545.8	546.6	545.8
25°	533.6	535.1	536.7	535.1	532.1	529.8	529.1	528.3	529.1	529.1	529.1
27.5°	517.6	518.4	519.9	517.6	514.6	512.3	511.6	510.8	511.6	511.6	511.6
30°	499.4	500.1	501.7	499.4	495.6	493.3	492.5	491.8	491.8	491.8	491.8
32.5°	480.3	481.9	483.4	480.3	476.5	474.3	473.5	472.7	473.5	473.5	473.5
35°	460.5	461.3	462.8	460.5	456.7	454.5	452.9	452.2	453.7	454.5	453.7
37.5°	441.5	442.3	443.0	440.8	436.9	434.7	433.1	432.4	431.6	431.6	431.6
40°	420.2	421.0	422.5	420.2	416.4	414.1	412.6	411.8	411.8	411.8	411.8
42.5°	399.6	400.4	401.2	398.9	395.1	392.8	391.3	390.5	391.3	391.3	391.3
45°	378.3	378.3	379.1	376.8	373.8	371.5	370.0	369.2	369.2	369.2	369.2
47.5°	356.3	357.0	357.8	355.5	352.5	350.2	348.6	347.1	347.1	347.1	347.1
50°	334.2	334.2	334.9	332.7	329.6	327.3	326.6	325.8	325.0	325.0	325.0
52.5°	311.3	312.1	312.9	310.6	308.3	306.0	304.5	303.7	303.7	303.7	303.7
55°	288.5	288.5	289.3	287.7	285.5	283.2	281.7	280.9	281.7	281.7	281.7
57.5°	265.7	266.4	267.2	264.9	262.6	260.3	259.6	258.8	258.8	258.8	258.8
60°	242.8	242.8	243.6	242.1	239.8	237.5	236.7	236.0	236.0	236.0	236.0
62.5°	220.0	220.0	220.8	219.2	217.0	214.7	213.9	213.1	213.1	213.1	213.1
65°	196.4	196.4	196.4	194.9	193.4	192.6	191.8	191.1	190.3	190.3	190.3
67.5°	170.5	170.5	171.3	169.8	168.2	167.5	166.7	165.9	165.2	165.2	165.2
70°	146.9	146.9	147.7	146.9	145.4	144.6	143.9	143.1	142.4	142.4	142.4
72.5°	124.1	124.1	124.1	123.3	122.6	121.8	121.0	120.3	119.5	119.5	119.5
75°	100.5	100.5	101.2	100.5	99.7	99.0	98.2	98.2	97.4	97.4	97.4
77.5°	78.4	79.2	79.9	79.2	78.4	77.6	76.9	76.9	76.1	76.1	76.1
80°	57.9	58.6	59.4	58.6	57.9	57.1	56.3	56.3	56.3	56.3	56.3
82.5°	38.8	39.6	40.3	39.6	38.8	38.8	38.1	38.1	38.1	38.1	38.1
85°	22.1	22.8	23.6	23.6	22.8	22.8	22.1	22.1	22.1	22.1	22.1
87.5°	8.4	9.1	9.9	9.9	9.1	9.1	9.1	9.1	9.1	9.1	9.1
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°	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5
2.5°	621.9	621.9	621.2	622.7	625.0	625.7	622.7	619.6	622.7	625.7	625.0
5°	618.9	618.9	618.9	619.6	621.9	622.7	620.4	617.4	620.4	622.7	621.9
7.5°	615.1	614.3	614.3	615.1	617.4	618.1	615.8	613.6	615.8	618.1	617.4
10°	606.7	606.7	606.7	608.2	610.5	612.0	609.8	606.7	609.8	612.0	610.5
12.5°	598.3	598.3	598.3	599.9	602.1	602.9	600.6	598.3	600.6	602.9	602.1
15°	588.4	588.4	588.4	590.0	592.2	593.0	590.7	588.4	590.7	593.0	592.2
17.5°	575.5	575.5	575.5	577.0	580.1	581.6	579.3	577.0	579.3	581.6	580.1
20°	561.0	561.0	561.8	563.3	566.4	567.9	566.4	564.1	566.4	567.9	566.4
22.5°	545.0	545.8	546.6	548.1	551.1	552.7	551.1	549.6	551.1	552.7	551.1
25°	528.3	529.1	529.8	532.1	535.1	536.7	535.1	533.6	535.1	536.7	535.1
27.5°	510.8	511.6	512.3	514.6	517.6	519.9	518.4	517.6	518.4	519.9	517.6
30°	491.8	492.5	493.3	495.6	499.4	501.7	500.1	499.4	500.1	501.7	499.4
32.5°	472.7	473.5	474.3	476.5	480.3	483.4	481.9	480.3	481.9	483.4	480.3
35°	452.2	452.9	454.5	456.7	460.5	462.8	461.3	460.5	461.3	462.8	460.5
37.5°	432.4	433.1	434.7	436.9	440.8	443.0	442.3	441.5	442.3	443.0	440.8
40°	411.8	412.6	414.1	416.4	420.2	422.5	421.0	420.2	421.0	422.5	420.2
42.5°	390.5	391.3	392.8	395.1	398.9	401.2	400.4	399.6	400.4	401.2	398.9
45°	369.2	370.0	371.5	373.8	376.8	379.1	378.3	378.3	378.3	379.1	376.8
47.5°	347.1	348.6	350.2	352.5	355.5	357.8	357.0	356.3	357.0	357.8	355.5
50°	325.8	326.6	327.3	329.6	332.7	334.9	334.2	334.2	334.2	334.9	332.7
52.5°	303.7	304.5	306.0	308.3	310.6	312.9	312.1	311.3	312.1	312.9	310.6
55°	280.9	281.7	283.2	285.5	287.7	289.3	288.5	288.5	288.5	289.3	287.7
57.5°	258.8	259.6	260.3	262.6	264.9	267.2	266.4	265.7	266.4	267.2	264.9
60°	236.0	236.7	237.5	239.8	242.1	243.6	242.8	242.8	242.8	243.6	242.1
62.5°	213.1	213.9	214.7	217.0	219.2	220.8	220.0	220.0	220.0	220.8	219.2
65°	191.1	191.8	192.6	193.4	194.9	196.4	196.4	196.4	196.4	196.4	194.9
67.5°	165.9	166.7	167.5	168.2	169.8	171.3	170.5	170.5	170.5	171.3	169.8
70°	143.1	143.9	144.6	145.4	146.9	147.7	146.9	146.9	146.9	147.7	146.9
72.5°	120.3	121.0	121.8	122.6	123.3	124.1	124.1	124.1	124.1	124.1	123.3
75°	98.2	98.2	99.0	99.7	100.5	101.2	100.5	100.5	100.5	101.2	100.5
77.5°	76.9	76.9	77.6	78.4	79.2	79.9	79.2	78.4	79.2	79.9	79.2
80°	56.3	56.3	57.1	57.9	58.6	59.4	58.6	57.9	58.6	59.4	58.6
82.5°	38.1	38.1	38.8	38.8	39.6	40.3	39.6	38.8	39.6	40.3	39.6
85°	22.1	22.1	22.8	22.8	23.6	23.6	22.8	22.1	22.8	23.6	23.6
87.5°	9.1	9.1	9.1	9.1	9.9	9.9	9.1	8.4	9.1	9.9	9.9
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5	623.5
2.5°	622.7	621.2	621.9	621.9	622.7	622.7	622.7	621.9	621.9	621.2	622.7
5°	619.6	618.9	618.9	618.9	620.4	621.9	620.4	618.9	618.9	618.9	619.6
7.5°	615.1	614.3	614.3	615.1	616.6	618.1	616.6	615.1	614.3	614.3	615.1
10°	608.2	606.7	606.7	606.7	608.2	609.8	608.2	606.7	606.7	606.7	608.2
12.5°	599.9	598.3	598.3	598.3	599.9	601.4	599.9	598.3	598.3	598.3	599.9
15°	590.0	588.4	588.4	588.4	590.0	590.7	590.0	588.4	588.4	588.4	590.0
17.5°	577.0	575.5	575.5	575.5	577.0	577.8	577.0	575.5	575.5	575.5	577.0
20°	563.3	561.8	561.0	561.0	562.6	563.3	562.6	561.0	561.0	561.8	563.3
22.5°	548.1	546.6	545.8	545.0	545.8	546.6	545.8	545.0	545.8	546.6	548.1
25°	532.1	529.8	529.1	528.3	529.1	529.1	529.1	528.3	529.1	529.8	532.1
27.5°	514.6	512.3	511.6	510.8	511.6	511.6	511.6	510.8	511.6	512.3	514.6
30°	495.6	493.3	492.5	491.8	491.8	491.8	491.8	491.8	492.5	493.3	495.6
32.5°	476.5	474.3	473.5	472.7	473.5	473.5	473.5	472.7	473.5	474.3	476.5
35°	456.7	454.5	452.9	452.2	453.7	454.5	453.7	452.2	452.9	454.5	456.7
37.5°	436.9	434.7	433.1	432.4	431.6	431.6	431.6	432.4	433.1	434.7	436.9
40°	416.4	414.1	412.6	411.8	411.8	411.8	411.8	411.8	412.6	414.1	416.4
42.5°	395.1	392.8	391.3	390.5	391.3	391.3	391.3	390.5	391.3	392.8	395.1
45°	373.8	371.5	370.0	369.2	369.2	369.2	369.2	369.2	370.0	371.5	373.8
47.5°	352.5	350.2	348.6	347.1	347.1	347.1	347.1	347.1	348.6	350.2	352.5
50°	329.6	327.3	326.6	325.8	325.0	325.0	325.0	325.8	326.6	327.3	329.6
52.5°	308.3	306.0	304.5	303.7	303.7	303.7	303.7	304.5	306.0	308.3	308.3
55°	285.5	283.2	281.7	280.9	281.7	281.7	281.7	280.9	281.7	283.2	285.5
57.5°	262.6	260.3	259.6	258.8	258.8	258.8	258.8	258.8	259.6	260.3	262.6
60°	239.8	237.5	236.7	236.0	236.0	236.0	236.0	236.0	236.7	237.5	239.8
62.5°	217.0	214.7	213.9	213.1	213.1	213.1	213.1	213.1	213.9	214.7	217.0
65°	193.4	192.6	191.8	191.1	190.3	190.3	190.3	191.1	191.8	192.6	193.4
67.5°	168.2	167.5	166.7	165.9	165.2	165.2	165.2	165.9	166.7	167.5	168.2
70°	145.4	144.6	143.9	143.1	142.4	142.4	142.4	143.1	143.9	144.6	145.4
72.5°	122.6	121.8	121.0	120.3	119.5	119.5	119.5	120.3	121.0	121.8	122.6
75°	99.7	99.0	98.2	98.2	97.4	97.4	97.4	98.2	98.2	99.0	99.7
77.5°	78.4	77.6	76.9	76.9	76.1	76.1	76.1	76.9	76.9	77.6	78.4
80°	57.9	57.1	56.3	56.3	56.3	56.3	56.3	56.3	56.3	57.1	57.9
82.5°	38.8	38.8	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.8	38.8
85°	22.8	22.8	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.8	22.8
87.5°	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
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°	623.5	623.5	623.5	623.5
2.5°	625.0	625.7	622.7	619.6
5°	621.9	622.7	620.4	617.4
7.5°	617.4	618.1	615.8	613.6
10°	610.5	612.0	609.8	606.7
12.5°	602.1	602.9	600.6	598.3
15°	592.2	593.0	590.7	588.4
17.5°	580.1	581.6	579.3	577.0
20°	566.4	567.9	566.4	564.1
22.5°	551.1	552.7	551.1	549.6
25°	535.1	536.7	535.1	533.6
27.5°	517.6	519.9	518.4	517.6
30°	499.4	501.7	500.1	499.4
32.5°	480.3	483.4	481.9	480.3
35°	460.5	462.8	461.3	460.5
37.5°	440.8	443.0	442.3	441.5
40°	420.2	422.5	421.0	420.2
42.5°	398.9	401.2	400.4	399.6
45°	376.8	379.1	378.3	378.3
47.5°	355.5	357.8	357.0	356.3
50°	332.7	334.9	334.2	334.2
52.5°	310.6	312.9	312.1	311.3
55°	287.7	289.3	288.5	288.5
57.5°	264.9	267.2	266.4	265.7
60°	242.1	243.6	242.8	242.8
62.5°	219.2	220.8	220.0	220.0
65°	194.9	196.4	196.4	196.4
67.5°	169.8	171.3	170.5	170.5
70°	146.9	147.7	146.9	146.9
72.5°	123.3	124.1	124.1	124.1
75°	100.5	101.2	100.5	100.5
77.5°	79.2	79.9	79.2	78.4
80°	58.6	59.4	58.6	57.9
82.5°	39.6	40.3	39.6	38.8
85°	23.6	23.6	22.8	22.1
87.5°	9.9	9.9	9.1	8.4
90°	0.0	0.0	0.0	0.0

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