

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: P709146

Luminaire Tested: **4APN-32L940-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709146
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-32L940-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

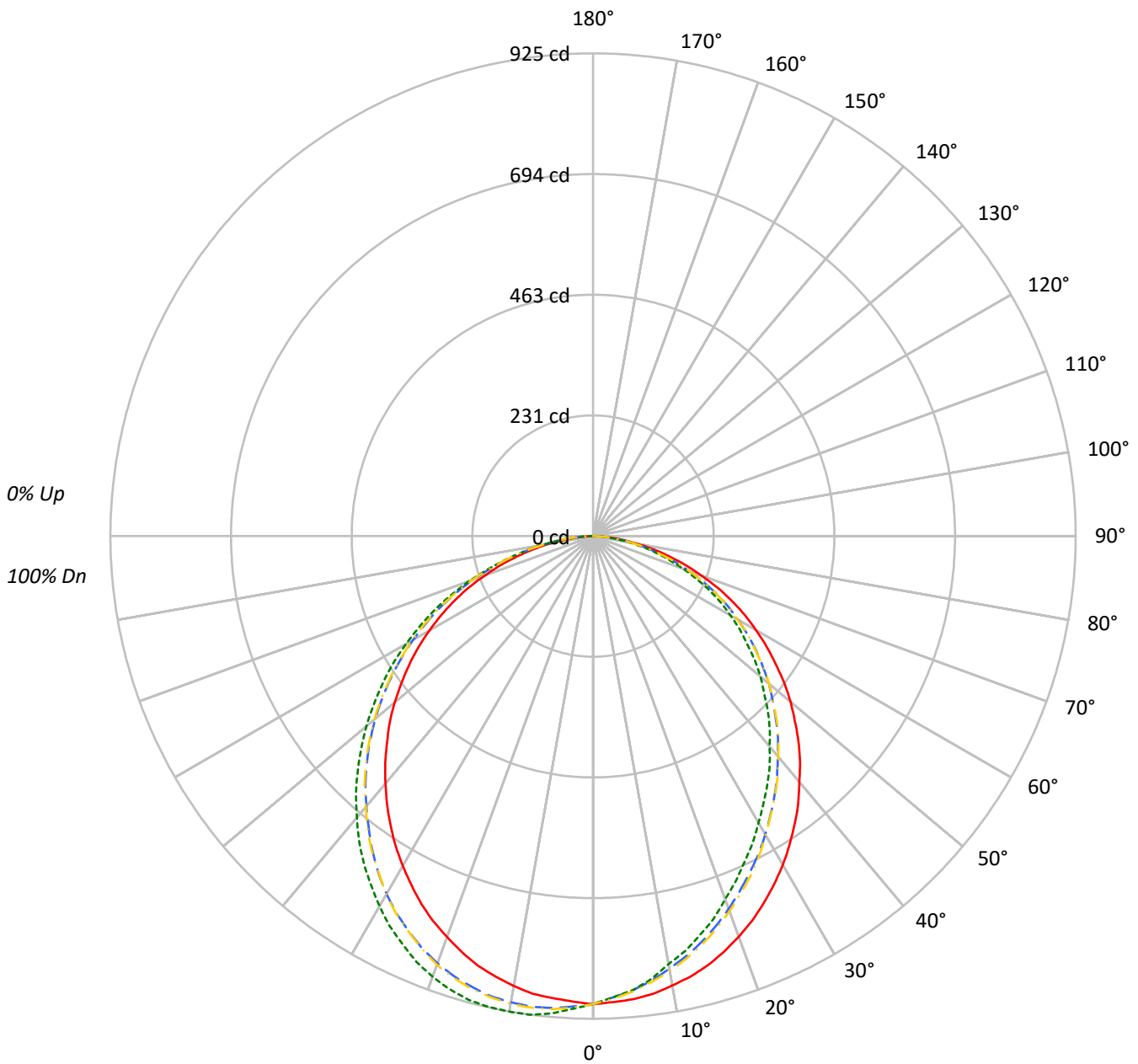
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2405.2 lumens
Efficiency: N/A
Efficacy: 66.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 36.4
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	94	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	61	61	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	41	41	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	36	36	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	32	32	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	29	29	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8274	8274	8274	8274
5°	8249	8090	8231	8503
10°	8193	7803	8202	8668
15°	8130	7558	8140	8788
20°	8019	7271	8028	8825
25°	7891	7002	7921	8788
30°	7749	6755	7771	8722
35°	7587	6559	7622	8626
40°	7405	6341	7453	8480
45°	7268	6182	7281	8326
50°	7092	6014	7121	8140
55°	6870	5792	6918	7914
60°	6665	5615	6683	7637
65°	6401	5381	6401	7309
70°	5967	4980	5937	6814
75°	5426	4520	5351	6110
80°	4692	3879	4527	5228
85°	3652	2901	3440	4298



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	3.5
10°-20°	240.5	10.0
20°-30°	357.5	14.9
30°-40°	421.4	17.5
40°-50°	429.1	17.8
50°-60°	382.2	15.9
60°-70°	288.0	12.0
70°-80°	160.1	6.7
80°-90°	41.6	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°	682.8	28.4
0°-40°	1104.2	45.9
0°-60°	1915.5	79.6
0°-90°	2405.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2405.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	897	897	897	897	897	
5°	891	874	889	918	891	85
15°	851	791	852	920	851	240
25°	775	688	778	863	775	357
35°	674	582	677	766	674	421
45°	557	474	558	638	557	429
55°	427	360	430	492	427	383
65°	293	246	293	335	293	289
75°	152	127	150	171	152	162
85°	34	27	32	41	34	42
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°	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8
2.5°	893.8	893.8	894.8	890.7	885.7	883.6	882.6	881.6	883.6	884.6	883.6
5°	890.7	888.7	886.7	881.6	875.5	871.5	869.4	868.4	870.4	873.5	870.4
7.5°	884.6	880.6	876.5	869.4	862.3	856.2	853.2	851.2	853.2	856.2	854.2
10°	874.5	869.4	863.3	855.2	845.1	838.0	834.9	831.9	832.9	832.9	832.9
12.5°	864.4	857.2	850.1	840.0	828.8	820.7	815.7	811.6	813.6	814.6	814.6
15°	851.2	842.0	831.9	820.7	809.6	800.4	794.4	790.3	791.3	791.3	792.3
17.5°	834.9	824.8	814.6	801.5	788.3	778.1	771.0	765.9	768.0	769.0	770.0
20°	816.7	805.5	794.4	780.1	765.9	754.8	747.7	741.6	740.6	740.6	741.6
22.5°	797.4	785.2	772.0	756.8	741.6	729.4	722.3	716.2	715.2	715.2	716.2
25°	775.1	761.9	748.7	733.5	717.2	705.1	695.9	689.9	688.8	687.8	689.9
27.5°	751.7	738.6	725.4	710.1	692.9	680.7	671.6	665.5	663.5	662.5	664.5
30°	727.4	712.2	698.0	681.7	666.5	654.4	645.2	638.1	636.1	634.1	636.1
32.5°	701.0	685.8	670.6	654.4	639.1	627.0	617.8	610.7	608.7	607.7	609.7
35°	673.6	658.4	644.2	628.0	612.8	600.6	591.5	585.4	583.3	582.3	583.3
37.5°	646.2	631.0	616.8	600.6	585.4	573.2	564.1	558.0	557.0	555.9	557.0
40°	614.8	601.6	587.4	572.2	557.0	544.8	537.7	530.6	528.6	526.5	529.6
42.5°	587.4	574.2	560.0	545.8	530.6	518.4	510.3	504.2	502.2	501.2	502.2
45°	557.0	542.8	528.6	515.4	501.2	490.0	481.9	475.8	474.8	473.8	474.8
47.5°	524.5	512.3	500.1	487.0	472.8	461.6	454.5	448.4	446.4	444.3	446.4
50°	494.1	481.9	469.7	457.5	444.3	434.2	427.1	421.0	420.0	419.0	420.0
52.5°	461.6	449.4	438.3	426.1	414.9	404.8	397.7	392.6	391.6	390.6	391.6
55°	427.1	417.0	406.8	396.7	385.5	376.4	370.3	364.2	362.2	360.1	362.2
57.5°	394.6	385.5	375.4	365.2	355.1	347.0	340.9	335.8	334.8	333.8	334.8
60°	361.2	353.0	343.9	334.8	324.6	316.5	311.5	307.4	305.4	304.3	305.4
62.5°	327.7	319.6	312.5	303.3	294.2	288.1	283.0	279.0	277.0	275.9	277.0
65°	293.2	286.1	279.0	270.9	263.8	257.7	252.6	248.6	247.5	246.5	246.5
67.5°	257.7	251.6	245.5	238.4	230.3	224.2	219.1	216.1	215.1	214.1	215.1
70°	221.2	216.1	210.0	203.9	197.8	192.8	189.7	186.7	185.7	184.6	184.6
72.5°	186.7	182.6	177.5	172.5	167.4	162.3	159.3	157.2	156.2	155.2	155.2
75°	152.2	148.1	145.1	141.0	135.9	132.9	129.9	127.8	126.8	126.8	126.8
77.5°	119.7	116.7	113.6	109.6	106.5	103.5	101.4	100.4	99.4	99.4	99.4
80°	88.3	86.2	84.2	82.2	79.1	76.1	75.1	74.1	73.0	73.0	73.0
82.5°	59.9	58.8	56.8	54.8	52.8	51.7	50.7	49.7	49.7	49.7	49.7
85°	34.5	33.5	32.5	31.4	30.4	30.4	29.4	28.4	27.4	27.4	27.4
87.5°	14.2	14.2	14.2	13.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
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°	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8
2.5°	881.6	883.6	885.7	888.7	891.7	894.8	893.8	892.8	896.8	901.9	902.9
5°	868.4	870.4	873.5	878.6	883.6	887.7	888.7	888.7	896.8	903.9	905.9
7.5°	852.2	855.2	859.3	864.4	871.5	877.5	880.6	884.6	892.8	901.9	905.9
10°	831.9	837.0	843.0	850.1	857.2	864.4	870.4	875.5	885.7	895.8	901.9
12.5°	813.6	818.7	824.8	832.9	842.0	851.2	857.2	864.4	876.5	888.7	895.8
15°	793.3	798.4	805.5	813.6	823.8	833.9	843.0	852.2	864.4	877.5	885.7
17.5°	771.0	776.1	783.2	793.3	804.5	815.7	825.8	835.9	850.1	864.4	873.5
20°	743.6	750.7	759.9	770.0	783.2	796.4	806.5	817.7	832.9	848.1	858.3
22.5°	717.2	724.4	734.5	746.7	760.9	775.1	787.2	799.4	815.7	830.9	842.0
25°	691.9	700.0	710.1	722.3	735.5	749.7	763.9	778.1	794.4	810.6	821.7
27.5°	666.5	673.6	683.8	695.9	711.2	725.4	739.6	753.8	771.0	788.3	800.4
30°	638.1	646.2	655.4	667.5	683.8	700.0	714.2	729.4	746.7	763.9	776.1
32.5°	611.7	618.8	628.0	640.1	656.4	672.6	687.8	704.1	720.3	737.5	749.7
35°	585.4	592.5	601.6	613.8	630.0	646.2	661.5	676.7	692.9	709.1	721.3
37.5°	559.0	566.1	575.2	587.4	602.6	618.8	633.0	648.3	664.5	680.7	691.9
40°	531.6	538.7	545.8	558.0	573.2	589.4	603.6	618.8	635.1	651.3	662.5
42.5°	504.2	511.3	520.4	532.6	546.8	561.0	575.2	589.4	604.6	619.9	631.0
45°	476.8	482.9	492.0	503.2	517.4	530.6	544.8	558.0	573.2	587.4	598.6
47.5°	448.4	454.5	461.6	472.8	487.0	501.2	515.4	528.6	541.7	555.9	566.1
50°	421.0	427.1	435.2	445.4	458.6	471.7	483.9	496.1	509.3	522.5	531.6
52.5°	392.6	398.7	405.8	415.9	427.1	439.3	450.4	462.6	474.8	487.0	496.1
55°	364.2	368.3	374.3	383.5	395.7	407.8	419.0	430.1	441.3	451.5	460.6
57.5°	335.8	340.9	348.0	356.1	366.2	376.4	386.5	396.7	406.8	417.0	425.1
60°	307.4	311.5	316.5	323.6	333.8	342.9	353.0	362.2	371.3	380.4	387.5
62.5°	278.0	282.0	287.1	294.2	302.3	310.4	319.6	327.7	335.8	343.9	351.0
65°	247.5	251.6	256.7	262.8	269.9	277.0	285.1	293.2	299.3	305.4	312.5
67.5°	216.1	220.1	225.2	230.3	236.4	243.5	250.6	257.7	263.8	269.9	274.9
70°	185.7	188.7	193.8	197.8	202.9	208.0	214.1	220.1	224.2	229.3	235.4
72.5°	156.2	159.3	163.3	167.4	170.4	174.5	180.6	185.7	190.7	196.8	199.9
75°	127.8	129.9	132.9	135.9	139.0	142.0	146.1	150.1	154.2	157.2	161.3
77.5°	99.4	101.4	104.5	106.5	108.6	110.6	113.6	116.7	119.7	121.7	125.8
80°	73.0	75.1	77.1	79.1	81.2	83.2	84.2	85.2	89.3	92.3	94.3
82.5°	49.7	50.7	51.7	53.8	54.8	55.8	56.8	56.8	58.8	60.9	63.9
85°	28.4	29.4	30.4	30.4	30.4	30.4	31.4	32.5	33.5	35.5	37.5
87.5°	11.2	11.2	12.2	12.2	12.2	12.2	12.2	12.2	13.2	15.2	16.2
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°	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8
2.5°	901.9	902.9	904.9	905.9	907.0	907.0	908.0	909.0	907.0	904.9	903.9
5°	907.0	908.0	911.0	914.1	916.1	918.1	917.1	916.1	914.1	911.0	909.0
7.5°	908.0	911.0	914.1	918.1	921.2	925.2	923.2	921.2	917.1	913.0	910.0
10°	904.9	909.0	914.1	919.1	922.2	925.2	923.2	921.2	917.1	912.0	908.0
12.5°	900.9	905.9	912.0	917.1	920.1	924.2	921.2	918.1	913.0	908.0	902.9
15°	891.7	897.8	904.9	911.0	916.1	920.1	917.1	915.1	909.0	901.9	894.8
17.5°	880.6	888.7	895.8	902.9	907.0	911.0	909.0	907.0	899.9	891.7	883.6
20°	867.4	875.5	882.6	889.7	894.8	898.8	895.8	892.8	885.7	878.6	870.4
22.5°	851.2	859.3	867.4	874.5	879.6	883.6	879.6	874.5	867.4	860.3	852.2
25°	830.9	840.0	849.1	856.2	859.3	863.3	859.3	855.2	848.1	841.0	831.9
27.5°	810.6	819.7	828.8	835.9	839.0	843.0	839.0	834.9	827.8	820.7	811.6
30°	787.2	796.4	805.5	812.6	815.7	818.7	814.6	810.6	804.5	797.4	788.3
32.5°	760.9	770.0	777.1	784.2	788.3	792.3	788.3	785.2	778.1	769.0	759.9
35°	732.5	741.6	750.7	757.8	761.9	765.9	760.9	755.8	749.7	742.6	734.5
37.5°	701.0	711.2	721.3	729.4	732.5	736.5	732.5	727.4	721.3	714.2	705.1
40°	671.6	680.7	689.9	698.0	701.0	704.1	700.0	695.9	688.8	681.7	672.6
42.5°	641.2	650.3	658.4	665.5	668.6	672.6	668.6	663.5	658.4	652.3	644.2
45°	608.7	617.8	624.9	632.0	635.1	638.1	634.1	629.0	623.9	618.8	610.7
47.5°	575.2	583.3	590.4	597.5	599.6	602.6	598.6	595.5	590.4	585.4	578.3
50°	540.7	548.8	555.9	562.0	564.1	567.1	563.0	559.0	554.9	550.9	544.8
52.5°	505.2	512.3	519.4	525.5	527.5	529.6	525.5	521.5	517.4	513.3	507.2
55°	468.7	475.8	482.9	488.0	490.0	492.0	488.0	484.9	480.9	477.8	471.7
57.5°	432.2	439.3	445.4	450.4	452.5	454.5	450.4	446.4	443.3	440.3	435.2
60°	394.6	401.7	406.8	410.9	412.9	413.9	409.9	406.8	404.8	402.8	397.7
62.5°	358.1	363.2	368.3	371.3	373.3	374.3	371.3	369.3	367.2	365.2	361.2
65°	319.6	325.7	329.7	332.8	333.8	334.8	331.7	329.7	327.7	325.7	322.6
67.5°	281.0	286.1	289.1	292.2	293.2	293.2	293.2	292.2	290.1	287.1	284.1
70°	242.5	246.5	249.6	251.6	252.6	252.6	250.6	248.6	248.6	247.5	245.5
72.5°	202.9	205.9	208.0	210.0	210.0	210.0	210.0	211.0	210.0	208.0	204.9
75°	165.4	168.4	170.4	171.4	171.4	171.4	171.4	172.5	171.4	170.4	168.4
77.5°	129.9	131.9	132.9	133.9	133.9	133.9	134.9	135.9	134.9	133.9	132.9
80°	96.4	97.4	98.4	99.4	98.4	98.4	99.4	101.4	100.4	99.4	98.4
82.5°	65.9	67.0	68.0	68.0	69.0	70.0	70.0	70.0	70.0	69.0	68.0
85°	39.6	40.6	40.6	40.6	40.6	40.6	41.6	42.6	42.6	41.6	41.6
87.5°	18.3	19.3	18.3	17.2	16.2	16.2	18.3	20.3	20.3	19.3	19.3
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°	896.8	896.8	896.8	896.8
2.5°	904.9	903.9	898.8	893.8
5°	908.0	904.9	897.8	890.7
7.5°	908.0	903.9	893.8	884.6
10°	902.9	896.8	885.7	874.5
12.5°	896.8	889.7	876.5	864.4
15°	887.7	879.6	865.4	851.2
17.5°	874.5	864.4	850.1	834.9
20°	861.3	850.1	832.9	816.7
22.5°	843.0	832.9	814.6	797.4
25°	822.8	811.6	793.3	775.1
27.5°	801.5	788.3	770.0	751.7
30°	777.1	763.9	745.7	727.4
32.5°	750.7	738.6	720.3	701.0
35°	724.4	711.2	692.9	673.6
37.5°	694.9	682.8	664.5	646.2
40°	663.5	651.3	633.0	614.8
42.5°	634.1	622.9	604.6	587.4
45°	601.6	590.4	573.2	557.0
47.5°	568.1	557.0	540.7	524.5
50°	535.7	524.5	509.3	494.1
52.5°	499.1	490.0	475.8	461.6
55°	463.6	454.5	440.3	427.1
57.5°	428.1	420.0	406.8	394.6
60°	390.6	382.5	372.3	361.2
62.5°	355.1	348.0	337.8	327.7
65°	317.5	311.5	302.3	293.2
67.5°	279.0	273.9	265.8	257.7
70°	240.4	234.3	228.3	221.2
72.5°	201.9	198.8	192.8	186.7
75°	165.4	162.3	157.2	152.2
77.5°	130.9	127.8	123.8	119.7
80°	96.4	94.3	91.3	88.3
82.5°	67.0	64.9	62.9	59.9
85°	40.6	38.6	36.5	34.5
87.5°	18.3	17.2	15.2	14.2
90°	0.0	0.0	0.0	0.0

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