

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: P709140

Luminaire Tested: **4APN-32L935-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709140
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-32L935-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

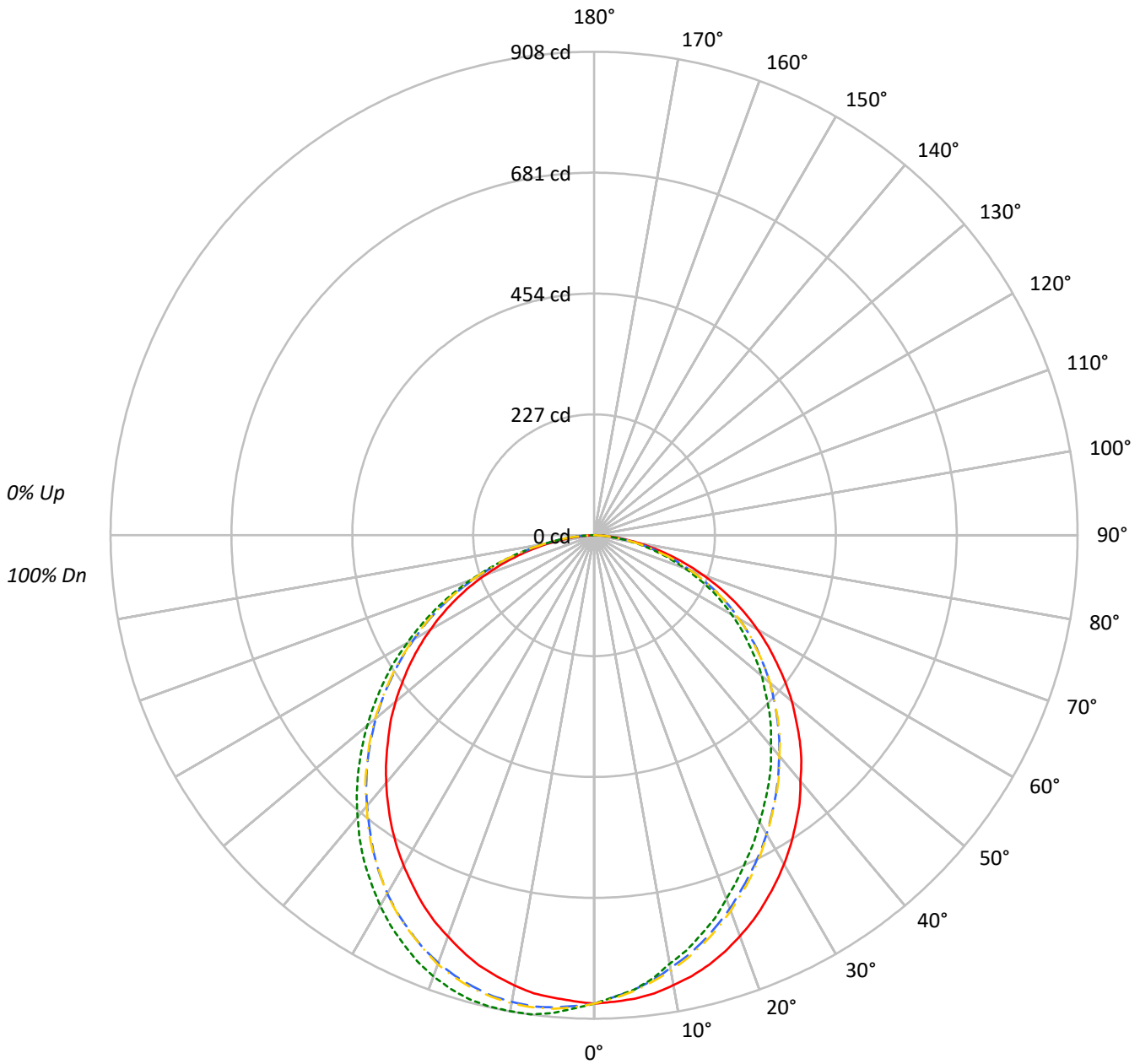
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2359.5 lumens
Efficiency: N/A
Efficacy: 64.8 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				
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°	8117	8117	8117	8117
5°	8093	7936	8074	8342
10°	8037	7655	8047	8503
15°	7976	7415	7985	8621
20°	7865	7133	7875	8657
25°	7740	6868	7770	8621
30°	7602	6626	7624	8556
35°	7443	6433	7476	8463
40°	7264	6221	7312	8319
45°	7129	6065	7142	8168
50°	6957	5899	6986	7985
55°	6740	5683	6788	7764
60°	6538	5510	6556	7492
65°	6279	5279	6279	7169
70°	5854	4885	5827	6685
75°	5322	4435	5251	5996
80°	4601	3810	4442	5127
85°	3578	2848	3366	4213



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.1	3.5
10°-20°	235.9	10.0
20°-30°	350.7	14.9
30°-40°	413.4	17.5
40°-50°	420.9	17.8
50°-60°	375.0	15.9
60°-70°	282.5	12.0
70°-80°	157.1	6.7
80°-90°	40.8	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°	669.8	28.4
0°-40°	1083.2	45.9
0°-60°	1879.0	79.6
0°-90°	2359.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2359.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	880	880	880	880	880	
5°	874	857	872	901	874	83
15°	835	776	836	903	835	235
25°	760	675	763	847	760	350
35°	661	571	664	751	661	413
45°	546	465	547	626	546	421
55°	419	353	422	483	419	375
65°	288	242	288	328	288	284
75°	149	124	147	168	149	159
85°	34	27	32	40	34	41
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°	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8
2.5°	876.8	876.8	877.8	873.8	868.8	866.8	865.8	864.8	866.8	867.8	866.8
5°	873.8	871.8	869.8	864.8	858.9	854.9	852.9	851.9	853.9	856.9	853.9
7.5°	867.8	863.8	859.9	852.9	845.9	840.0	837.0	835.0	837.0	840.0	838.0
10°	857.9	852.9	846.9	839.0	829.0	822.0	819.1	816.1	817.1	817.1	817.1
12.5°	847.9	840.9	834.0	824.0	813.1	805.1	800.1	796.2	798.2	799.1	799.1
15°	835.0	826.0	816.1	805.1	794.2	785.2	779.2	775.3	776.3	776.3	777.3
17.5°	819.1	809.1	799.1	786.2	773.3	763.3	756.4	751.4	753.4	754.4	755.4
20°	801.1	790.2	779.2	765.3	751.4	740.4	733.5	727.5	726.5	726.5	727.5
22.5°	782.2	770.3	757.3	742.4	727.5	715.6	708.6	702.6	701.6	701.6	702.6
25°	760.3	747.4	734.5	719.5	703.6	691.7	682.7	676.7	675.7	674.7	676.7
27.5°	737.4	724.5	711.6	696.6	679.7	667.8	658.8	652.9	650.9	649.9	651.9
30°	713.6	698.6	684.7	668.8	653.8	641.9	632.9	626.0	624.0	622.0	624.0
32.5°	687.7	672.8	657.8	641.9	627.0	615.0	606.1	599.1	597.1	596.1	598.1
35°	660.8	645.9	632.0	616.0	601.1	589.2	580.2	574.2	572.2	571.2	572.2
37.5°	633.9	619.0	605.1	589.2	574.2	562.3	553.3	547.4	546.4	545.4	546.4
40°	603.1	590.2	576.2	561.3	546.4	534.4	527.5	520.5	518.5	516.5	519.5
42.5°	576.2	563.3	549.4	535.4	520.5	508.5	500.6	494.6	492.6	491.6	492.6
45°	546.4	532.4	518.5	505.6	491.6	480.7	472.7	466.7	465.8	464.8	465.8
47.5°	514.5	502.6	490.6	477.7	463.8	452.8	445.9	439.9	437.9	435.9	437.9
50°	484.7	472.7	460.8	448.8	435.9	425.9	419.0	413.0	412.0	411.0	412.0
52.5°	452.8	440.9	429.9	418.0	407.0	397.1	390.1	385.1	384.1	383.2	384.1
55°	419.0	409.0	399.1	389.1	378.2	369.2	363.2	357.3	355.3	353.3	355.3
57.5°	387.1	378.2	368.2	358.3	348.3	340.4	334.4	329.4	328.4	327.4	328.4
60°	354.3	346.3	337.4	328.4	318.5	310.5	305.5	301.5	299.6	298.6	299.6
62.5°	321.5	313.5	306.5	297.6	288.6	282.6	277.7	273.7	271.7	270.7	271.7
65°	287.6	280.6	273.7	265.7	258.8	252.8	247.8	243.8	242.8	241.8	241.8
67.5°	252.8	246.8	240.8	233.9	225.9	219.9	215.0	212.0	211.0	210.0	211.0
70°	217.0	212.0	206.0	200.0	194.1	189.1	186.1	183.1	182.1	181.1	181.1
72.5°	183.1	179.1	174.2	169.2	164.2	159.2	156.2	154.3	153.3	152.3	152.3
75°	149.3	145.3	142.3	138.3	133.4	130.4	127.4	125.4	124.4	124.4	124.4
77.5°	117.4	114.4	111.5	107.5	104.5	101.5	99.5	98.5	97.5	97.5	97.5
80°	86.6	84.6	82.6	80.6	77.6	74.6	73.6	72.6	71.7	71.7	71.7
82.5°	58.7	57.7	55.7	53.7	51.8	50.8	49.8	48.8	48.8	48.8	48.8
85°	33.8	32.8	31.8	30.9	29.9	29.9	28.9	27.9	26.9	26.9	26.9
87.5°	13.9	13.9	13.9	12.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
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°	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8
2.5°	864.8	866.8	868.8	871.8	874.8	877.8	876.8	875.8	879.8	884.7	885.7
5°	851.9	853.9	856.9	861.8	866.8	870.8	871.8	871.8	879.8	886.7	888.7
7.5°	836.0	839.0	842.9	847.9	854.9	860.8	863.8	867.8	875.8	884.7	888.7
10°	816.1	821.0	827.0	834.0	840.9	847.9	853.9	858.9	868.8	878.8	884.7
12.5°	798.2	803.1	809.1	817.1	826.0	835.0	840.9	847.9	859.9	871.8	878.8
15°	778.2	783.2	790.2	798.2	808.1	818.1	827.0	836.0	847.9	860.8	868.8
17.5°	756.4	761.3	768.3	778.2	789.2	800.1	810.1	820.0	834.0	847.9	856.9
20°	729.5	736.4	745.4	755.4	768.3	781.2	791.2	802.1	817.1	832.0	841.9
22.5°	703.6	710.6	720.5	732.5	746.4	760.3	772.3	784.2	800.1	815.1	826.0
25°	678.7	686.7	696.6	708.6	721.5	735.5	749.4	763.3	779.2	795.2	806.1
27.5°	653.8	660.8	670.8	682.7	697.6	711.6	725.5	739.4	756.4	773.3	785.2
30°	626.0	633.9	642.9	654.8	670.8	686.7	700.6	715.6	732.5	749.4	761.3
32.5°	600.1	607.1	616.0	628.0	643.9	659.8	674.7	690.7	706.6	723.5	735.5
35°	574.2	581.2	590.2	602.1	618.0	633.9	648.9	663.8	679.7	695.6	707.6
37.5°	548.4	555.3	564.3	576.2	591.2	607.1	621.0	635.9	651.9	667.8	678.7
40°	521.5	528.5	535.4	547.4	562.3	578.2	592.1	607.1	623.0	638.9	649.9
42.5°	494.6	501.6	510.5	522.5	536.4	550.3	564.3	578.2	593.1	608.1	619.0
45°	467.7	473.7	482.7	493.6	507.6	520.5	534.4	547.4	562.3	576.2	587.2
47.5°	439.9	445.9	452.8	463.8	477.7	491.6	505.6	518.5	531.4	545.4	555.3
50°	413.0	419.0	426.9	436.9	449.8	462.8	474.7	486.7	499.6	512.5	521.5
52.5°	385.1	391.1	398.1	408.0	419.0	430.9	441.9	453.8	465.8	477.7	486.7
55°	357.3	361.3	367.2	376.2	388.1	400.1	411.0	422.0	432.9	442.9	451.8
57.5°	329.4	334.4	341.4	349.3	359.3	369.2	379.2	389.1	399.1	409.0	417.0
60°	301.5	305.5	310.5	317.5	327.4	336.4	346.3	355.3	364.2	373.2	380.2
62.5°	272.7	276.7	281.6	288.6	296.6	304.5	313.5	321.5	329.4	337.4	344.3
65°	242.8	246.8	251.8	257.8	264.7	271.7	279.7	287.6	293.6	299.6	306.5
67.5°	212.0	216.0	220.9	225.9	231.9	238.8	245.8	252.8	258.8	264.7	269.7
70°	182.1	185.1	190.1	194.1	199.0	204.0	210.0	216.0	219.9	224.9	230.9
72.5°	153.3	156.2	160.2	164.2	167.2	171.2	177.1	182.1	187.1	193.1	196.1
75°	125.4	127.4	130.4	133.4	136.3	139.3	143.3	147.3	151.3	154.3	158.2
77.5°	97.5	99.5	102.5	104.5	106.5	108.5	111.5	114.4	117.4	119.4	123.4
80°	71.7	73.6	75.6	77.6	79.6	81.6	82.6	83.6	87.6	90.6	92.6
82.5°	48.8	49.8	50.8	52.7	53.7	54.7	55.7	55.7	57.7	59.7	62.7
85°	27.9	28.9	29.9	29.9	29.9	29.9	30.9	31.8	32.8	34.8	36.8
87.5°	10.9	10.9	11.9	11.9	11.9	11.9	11.9	11.9	12.9	14.9	15.9
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°	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8	879.8
2.5°	884.7	885.7	887.7	888.7	889.7	889.7	890.7	891.7	889.7	887.7	886.7
5°	889.7	890.7	893.7	896.7	898.7	898.7	899.7	898.7	896.7	893.7	891.7
7.5°	890.7	893.7	896.7	900.7	903.6	907.6	905.6	903.6	899.7	895.7	892.7
10°	887.7	891.7	896.7	901.7	904.6	907.6	905.6	903.6	899.7	894.7	890.7
12.5°	883.7	888.7	894.7	899.7	902.6	906.6	903.6	900.7	895.7	890.7	885.7
15°	874.8	880.8	887.7	893.7	898.7	902.6	899.7	897.7	891.7	884.7	877.8
17.5°	863.8	871.8	878.8	885.7	889.7	893.7	891.7	889.7	882.7	874.8	866.8
20°	850.9	858.9	865.8	872.8	877.8	881.7	878.8	875.8	868.8	861.8	853.9
22.5°	835.0	842.9	850.9	857.9	862.8	866.8	862.8	857.9	850.9	843.9	836.0
25°	815.1	824.0	833.0	840.0	842.9	846.9	842.9	839.0	832.0	825.0	816.1
27.5°	795.2	804.1	813.1	820.0	823.0	827.0	823.0	819.1	812.1	805.1	796.2
30°	772.3	781.2	790.2	797.2	800.1	803.1	799.1	795.2	789.2	782.2	773.3
32.5°	746.4	755.4	762.3	769.3	773.3	777.3	773.3	770.3	763.3	754.4	745.4
35°	718.5	727.5	736.4	743.4	747.4	751.4	746.4	741.4	735.5	728.5	720.5
37.5°	687.7	697.6	707.6	715.6	718.5	722.5	718.5	713.6	707.6	700.6	691.7
40°	658.8	667.8	676.7	684.7	687.7	690.7	686.7	682.7	675.7	668.8	659.8
42.5°	629.0	637.9	645.9	652.9	655.8	659.8	655.8	650.9	645.9	639.9	632.0
45°	597.1	606.1	613.0	620.0	623.0	626.0	622.0	617.0	612.0	607.1	599.1
47.5°	564.3	572.2	579.2	586.2	588.2	591.2	587.2	584.2	579.2	574.2	567.3
50°	530.4	538.4	545.4	551.3	553.3	556.3	552.3	548.4	544.4	540.4	534.4
52.5°	495.6	502.6	509.5	515.5	517.5	519.5	515.5	511.5	507.6	503.6	497.6
55°	459.8	466.7	473.7	478.7	480.7	482.7	478.7	475.7	471.7	468.7	462.8
57.5°	424.0	430.9	436.9	441.9	443.9	445.9	441.9	437.9	434.9	431.9	426.9
60°	387.1	394.1	399.1	403.1	405.0	406.0	402.1	399.1	397.1	395.1	390.1
62.5°	351.3	356.3	361.3	364.2	366.2	367.2	364.2	362.3	360.3	358.3	354.3
65°	313.5	319.5	323.4	326.4	327.4	328.4	325.4	323.4	321.5	319.5	316.5
67.5°	275.7	280.6	283.6	286.6	287.6	287.6	287.6	286.6	284.6	281.6	278.7
70°	237.9	241.8	244.8	246.8	247.8	247.8	245.8	243.8	243.8	242.8	240.8
72.5°	199.0	202.0	204.0	206.0	206.0	206.0	206.0	207.0	206.0	204.0	201.0
75°	162.2	165.2	167.2	168.2	168.2	168.2	168.2	169.2	168.2	167.2	165.2
77.5°	127.4	129.4	130.4	131.4	131.4	131.4	132.4	133.4	132.4	131.4	130.4
80°	94.5	95.5	96.5	97.5	96.5	96.5	97.5	99.5	98.5	97.5	96.5
82.5°	64.7	65.7	66.7	66.7	67.7	68.7	68.7	68.7	68.7	67.7	66.7
85°	38.8	39.8	39.8	39.8	39.8	39.8	40.8	41.8	41.8	40.8	40.8
87.5°	17.9	18.9	17.9	16.9	15.9	15.9	17.9	19.9	19.9	18.9	18.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P709140
CATALOG NUMBER: 4APN-32L935-X-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	879.8	879.8	879.8	879.8
2.5°	887.7	886.7	881.7	876.8
5°	890.7	887.7	880.8	873.8
7.5°	890.7	886.7	876.8	867.8
10°	885.7	879.8	868.8	857.9
12.5°	879.8	872.8	859.9	847.9
15°	870.8	862.8	848.9	835.0
17.5°	857.9	847.9	834.0	819.1
20°	844.9	834.0	817.1	801.1
22.5°	827.0	817.1	799.1	782.2
25°	807.1	796.2	778.2	760.3
27.5°	786.2	773.3	755.4	737.4
30°	762.3	749.4	731.5	713.6
32.5°	736.4	724.5	706.6	687.7
35°	710.6	697.6	679.7	660.8
37.5°	681.7	669.8	651.9	633.9
40°	650.9	638.9	621.0	603.1
42.5°	622.0	611.1	593.1	576.2
45°	590.2	579.2	562.3	546.4
47.5°	557.3	546.4	530.4	514.5
50°	525.5	514.5	499.6	484.7
52.5°	489.6	480.7	466.7	452.8
55°	454.8	445.9	431.9	419.0
57.5°	420.0	412.0	399.1	387.1
60°	383.2	375.2	365.2	354.3
62.5°	348.3	341.4	331.4	321.5
65°	311.5	305.5	296.6	287.6
67.5°	273.7	268.7	260.7	252.8
70°	235.9	229.9	223.9	217.0
72.5°	198.0	195.1	189.1	183.1
75°	162.2	159.2	154.3	149.3
77.5°	128.4	125.4	121.4	117.4
80°	94.5	92.6	89.6	86.6
82.5°	65.7	63.7	61.7	58.7
85°	39.8	37.8	35.8	33.8
87.5°	17.9	16.9	14.9	13.9
90°	0.0	0.0	0.0	0.0

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