

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: P709133

Luminaire Tested: **4APN-35L930-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709133
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-35L930-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

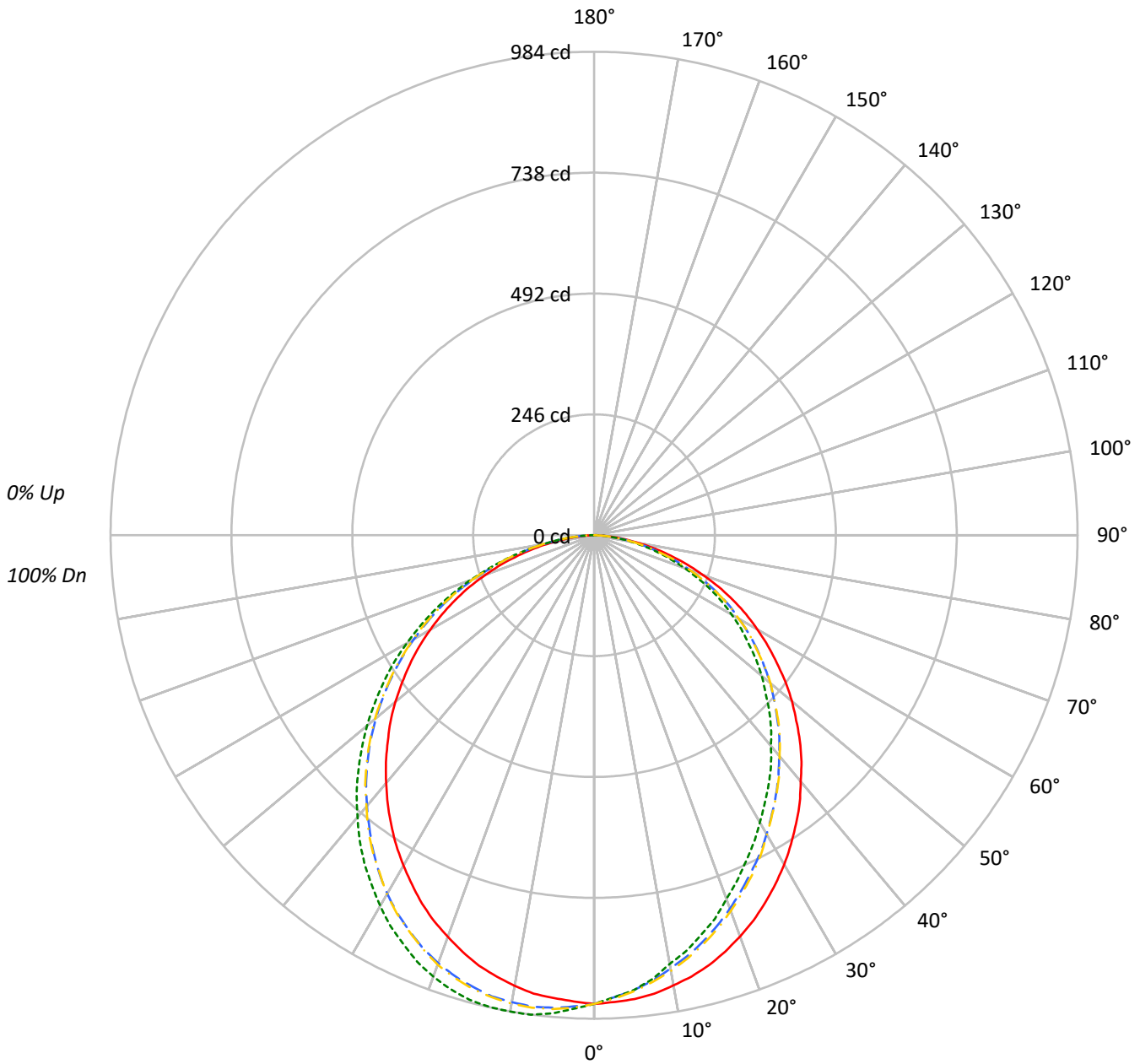
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2558.7 lumens
Efficiency: N/A
Efficacy: 63.3 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): 40.4
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°	8802	8802	8802	8802
5°	8776	8606	8756	9046
10°	8716	8301	8726	9221
15°	8649	8041	8660	9350
20°	8530	7735	8541	9388
25°	8393	7449	8427	9349
30°	8244	7186	8267	9278
35°	8071	6977	8107	9177
40°	7877	6746	7929	9021
45°	7731	6576	7745	8857
50°	7544	6397	7574	8659
55°	7309	6162	7361	8419
60°	7089	5975	7110	8125
65°	6809	5726	6809	7774
70°	6347	5298	6318	7248
75°	5771	4809	5693	6502
80°	4989	4128	4819	5563
85°	3885	3080	3652	4573



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.1	3.5
10°-20°	255.8	10.0
20°-30°	380.3	14.9
30°-40°	448.3	17.5
40°-50°	456.4	17.8
50°-60°	406.6	15.9
60°-70°	306.4	12.0
70°-80°	170.4	6.7
80°-90°	44.3	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°	726.3	28.4
0°-40°	1174.6	45.9
0°-60°	2037.7	79.6
0°-90°	2558.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2558.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	954	954	954	954	954	
5°	948	929	945	977	948	90
15°	906	842	907	979	906	255
25°	824	732	828	918	824	380
35°	717	620	720	815	717	448
45°	592	504	594	679	592	457
55°	454	383	458	523	454	407
65°	312	262	312	356	312	308
75°	162	135	160	182	162	172
85°	37	29	34	43	37	44
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°	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0
2.5°	950.8	950.8	951.9	947.6	942.2	940.0	938.9	937.8	940.0	941.1	940.0
5°	947.6	945.4	943.2	937.8	931.4	927.1	924.9	923.8	926.0	929.2	926.0
7.5°	941.1	936.8	932.5	924.9	917.3	910.9	907.6	905.5	907.6	910.9	908.7
10°	930.3	924.9	918.4	909.8	899.0	891.4	888.2	885.0	886.0	886.0	886.0
12.5°	919.5	911.9	904.4	893.6	881.7	873.1	867.7	863.4	865.5	866.6	866.6
15°	905.5	895.8	885.0	873.1	861.2	851.5	845.0	840.7	841.8	841.8	842.9
17.5°	888.2	877.4	866.6	852.6	838.6	827.8	820.2	814.8	817.0	818.1	819.1
20°	868.8	856.9	845.0	829.9	814.8	802.9	795.4	788.9	787.8	787.8	788.9
22.5°	848.3	835.3	821.3	805.1	788.9	776.0	768.4	761.9	760.9	760.9	761.9
25°	824.5	810.5	796.5	780.3	763.0	750.1	740.4	733.9	732.8	731.7	733.9
27.5°	799.7	785.7	771.6	755.5	737.1	724.2	714.4	708.0	705.8	704.7	706.9
30°	773.8	757.6	742.5	725.2	709.1	696.1	686.4	678.8	676.7	674.5	676.7
32.5°	745.7	729.6	713.4	696.1	679.9	667.0	657.2	649.7	647.5	646.5	648.6
35°	716.6	700.4	685.3	668.0	651.9	638.9	629.2	622.7	620.6	619.5	620.6
37.5°	687.5	671.3	656.2	638.9	622.7	609.8	600.1	593.6	592.5	591.4	592.5
40°	654.0	640.0	624.9	608.7	592.5	579.5	572.0	564.4	562.3	560.1	563.4
42.5°	624.9	610.8	595.7	580.6	564.4	551.5	542.9	536.4	534.2	533.1	534.2
45°	592.5	577.4	562.3	548.2	533.1	521.3	512.6	506.2	505.1	504.0	505.1
47.5°	558.0	545.0	532.1	518.0	502.9	491.0	483.5	477.0	474.9	472.7	474.9
50°	525.6	512.6	499.7	486.7	472.7	461.9	454.4	447.9	446.8	445.7	446.8
52.5°	491.0	478.1	466.2	453.3	441.4	430.6	423.1	417.7	416.6	415.5	416.6
55°	454.4	443.6	432.8	422.0	410.1	400.4	393.9	387.4	385.3	383.1	385.3
57.5°	419.8	410.1	399.3	388.5	377.7	369.1	362.6	357.2	356.1	355.1	356.1
60°	384.2	375.6	365.9	356.1	345.4	336.7	331.3	327.0	324.8	323.8	324.8
62.5°	348.6	340.0	332.4	322.7	313.0	306.5	301.1	296.8	294.6	293.6	294.6
65°	311.9	304.3	296.8	288.2	280.6	274.1	268.7	264.4	263.3	262.3	262.3
67.5°	274.1	267.6	261.2	253.6	245.0	238.5	233.1	229.9	228.8	227.7	228.8
70°	235.3	229.9	223.4	216.9	210.4	205.1	201.8	198.6	197.5	196.4	196.4
72.5°	198.6	194.3	188.9	183.5	178.1	172.7	169.4	167.3	166.2	165.1	165.1
75°	161.9	157.6	154.3	150.0	144.6	141.4	138.1	136.0	134.9	134.9	134.9
77.5°	127.3	124.1	120.9	116.6	113.3	110.1	107.9	106.8	105.8	105.8	105.8
80°	93.9	91.7	89.6	87.4	84.2	80.9	79.9	78.8	77.7	77.7	77.7
82.5°	63.7	62.6	60.4	58.3	56.1	55.0	54.0	52.9	52.9	52.9	52.9
85°	36.7	35.6	34.5	33.5	32.4	32.4	31.3	30.2	29.1	29.1	29.1
87.5°	15.1	15.1	15.1	14.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
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°	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0
2.5°	937.8	940.0	942.2	945.4	948.6	951.9	950.8	949.7	954.0	959.4	960.5
5°	923.8	926.0	929.2	934.6	940.0	944.3	945.4	945.4	954.0	961.6	963.8
7.5°	906.6	909.8	914.1	919.5	927.1	933.5	936.8	941.1	949.7	959.4	963.8
10°	885.0	890.4	896.8	904.4	911.9	919.5	926.0	931.4	942.2	953.0	959.4
12.5°	865.5	870.9	877.4	886.0	895.8	905.5	911.9	919.5	932.5	945.4	953.0
15°	844.0	849.4	856.9	865.5	876.3	887.1	896.8	906.6	919.5	933.5	942.2
17.5°	820.2	825.6	833.2	844.0	855.8	867.7	878.5	889.3	904.4	919.5	929.2
20°	791.1	798.6	808.3	819.1	833.2	847.2	858.0	869.9	886.0	902.2	913.0
22.5°	763.0	770.6	781.4	794.3	809.4	824.5	837.5	850.4	867.7	883.9	895.8
25°	736.0	744.7	755.5	768.4	782.4	797.5	812.7	827.8	845.0	862.3	874.2
27.5°	709.1	716.6	727.4	740.4	756.5	771.6	786.8	801.9	820.2	838.6	851.5
30°	678.8	687.5	697.2	710.1	727.4	744.7	759.8	776.0	794.3	812.7	825.6
32.5°	650.8	658.3	668.0	681.0	698.3	715.5	731.7	749.0	766.3	784.6	797.5
35°	622.7	630.3	640.0	652.9	670.2	687.5	703.7	719.8	737.1	754.4	767.3
37.5°	594.7	602.2	611.9	624.9	641.1	658.3	673.4	689.6	706.9	724.2	736.0
40°	565.5	573.1	580.6	593.6	609.8	627.0	642.1	658.3	675.6	692.9	704.7
42.5°	536.4	543.9	553.6	566.6	581.7	596.8	611.9	627.0	643.2	659.4	671.3
45°	507.2	513.7	523.4	535.3	550.4	564.4	579.5	593.6	609.8	624.9	636.7
47.5°	477.0	483.5	491.0	502.9	518.0	533.1	548.2	562.3	576.3	591.4	602.2
50°	447.9	454.4	463.0	473.8	487.8	501.8	514.8	527.7	541.8	555.8	565.5
52.5°	417.7	424.1	431.7	442.5	454.4	467.3	479.2	492.1	505.1	518.0	527.7
55°	387.4	391.8	398.2	407.9	420.9	433.8	445.7	457.6	469.5	480.3	490.0
57.5°	357.2	362.6	370.2	378.8	389.6	400.4	411.2	422.0	432.8	443.6	452.2
60°	327.0	331.3	336.7	344.3	355.1	364.8	375.6	385.3	395.0	404.7	412.3
62.5°	295.7	300.0	305.4	313.0	321.6	330.2	340.0	348.6	357.2	365.9	373.4
65°	263.3	267.6	273.0	279.5	287.1	294.6	303.3	311.9	318.4	324.8	332.4
67.5°	229.9	234.2	239.6	245.0	251.5	259.0	266.6	274.1	280.6	287.1	292.5
70°	197.5	200.7	206.1	210.4	215.8	221.2	227.7	234.2	238.5	243.9	250.4
72.5°	166.2	169.4	173.8	178.1	181.3	185.6	192.1	197.5	202.9	209.4	212.6
75°	136.0	138.1	141.4	144.6	147.9	151.1	155.4	159.7	164.0	167.3	171.6
77.5°	105.8	107.9	111.2	113.3	115.5	117.6	120.9	124.1	127.3	129.5	133.8
80°	77.7	79.9	82.0	84.2	86.3	88.5	89.6	90.7	95.0	98.2	100.4
82.5°	52.9	54.0	55.0	57.2	58.3	59.4	60.4	60.4	62.6	64.8	68.0
85°	30.2	31.3	32.4	32.4	32.4	32.4	33.5	34.5	35.6	37.8	39.9
87.5°	11.9	11.9	13.0	13.0	13.0	13.0	13.0	13.0	14.0	16.2	17.3
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0
2.5°	959.4	960.5	962.7	963.8	964.8	964.8	965.9	967.0	964.8	962.7	961.6
5°	964.8	965.9	969.1	972.4	974.5	976.7	975.6	974.5	972.4	969.1	967.0
7.5°	965.9	969.1	972.4	976.7	979.9	984.3	982.1	979.9	975.6	971.3	968.1
10°	962.7	967.0	972.4	977.8	981.0	984.3	982.1	979.9	975.6	970.2	965.9
12.5°	958.4	963.8	970.2	975.6	978.9	983.2	979.9	976.7	971.3	965.9	960.5
15°	948.6	955.1	962.7	969.1	974.5	978.9	975.6	973.5	967.0	959.4	951.9
17.5°	936.8	945.4	953.0	960.5	964.8	969.1	967.0	964.8	957.3	948.6	940.0
20°	922.7	931.4	938.9	946.5	951.9	956.2	953.0	949.7	942.2	934.6	926.0
22.5°	905.5	914.1	922.7	930.3	935.7	940.0	935.7	930.3	922.7	915.2	906.6
25°	883.9	893.6	903.3	910.9	914.1	918.4	914.1	909.8	902.2	894.7	885.0
27.5°	862.3	872.0	881.7	889.3	892.5	896.8	892.5	888.2	880.7	873.1	863.4
30°	837.5	847.2	856.9	864.5	867.7	870.9	866.6	862.3	855.8	848.3	838.6
32.5°	809.4	819.1	826.7	834.2	838.6	842.9	838.6	835.3	827.8	818.1	808.3
35°	779.2	788.9	798.6	806.2	810.5	814.8	809.4	804.0	797.5	790.0	781.4
37.5°	745.7	756.5	767.3	776.0	779.2	783.5	779.2	773.8	767.3	759.8	750.1
40°	714.4	724.2	733.9	742.5	745.7	749.0	744.7	740.4	732.8	725.2	715.5
42.5°	682.1	691.8	700.4	708.0	711.2	715.5	711.2	705.8	700.4	693.9	685.3
45°	647.5	657.2	664.8	672.4	675.6	678.8	674.5	669.1	663.7	658.3	649.7
47.5°	611.9	620.6	628.1	635.7	637.8	641.1	636.7	633.5	628.1	622.7	615.2
50°	575.2	583.9	591.4	597.9	600.1	603.3	599.0	594.7	590.3	586.0	579.5
52.5°	537.5	545.0	552.6	559.0	561.2	563.4	559.0	554.7	550.4	546.1	539.6
55°	498.6	506.2	513.7	519.1	521.3	523.4	519.1	515.9	511.6	508.3	501.8
57.5°	459.8	467.3	473.8	479.2	481.3	483.5	479.2	474.9	471.6	468.4	463.0
60°	419.8	427.4	432.8	437.1	439.2	440.3	436.0	432.8	430.6	428.5	423.1
62.5°	381.0	386.4	391.8	395.0	397.2	398.2	395.0	392.8	390.7	388.5	384.2
65°	340.0	346.4	350.7	354.0	355.1	356.1	352.9	350.7	348.6	346.4	343.2
67.5°	298.9	304.3	307.6	310.8	311.9	311.9	311.9	310.8	308.7	305.4	302.2
70°	257.9	262.3	265.5	267.6	268.7	268.7	266.6	264.4	264.4	263.3	261.2
72.5°	215.8	219.1	221.2	223.4	223.4	223.4	223.4	224.5	223.4	221.2	218.0
75°	175.9	179.2	181.3	182.4	182.4	182.4	182.4	183.5	182.4	181.3	179.2
77.5°	138.1	140.3	141.4	142.5	142.5	142.5	143.5	144.6	143.5	142.5	141.4
80°	102.5	103.6	104.7	105.8	104.7	104.7	105.8	107.9	106.8	105.8	104.7
82.5°	70.1	71.2	72.3	72.3	73.4	74.5	74.5	74.5	74.5	73.4	72.3
85°	42.1	43.2	43.2	43.2	43.2	43.2	44.2	45.3	45.3	44.2	44.2
87.5°	19.4	20.5	19.4	18.3	17.3	17.3	19.4	21.6	21.6	20.5	20.5
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°	954.0	954.0	954.0	954.0
2.5°	962.7	961.6	956.2	950.8
5°	965.9	962.7	955.1	947.6
7.5°	965.9	961.6	950.8	941.1
10°	960.5	954.0	942.2	930.3
12.5°	954.0	946.5	932.5	919.5
15°	944.3	935.7	920.6	905.5
17.5°	930.3	919.5	904.4	888.2
20°	916.3	904.4	886.0	868.8
22.5°	896.8	886.0	866.6	848.3
25°	875.3	863.4	844.0	824.5
27.5°	852.6	838.6	819.1	799.7
30°	826.7	812.7	793.2	773.8
32.5°	798.6	785.7	766.3	745.7
35°	770.6	756.5	737.1	716.6
37.5°	739.3	726.3	706.9	687.5
40°	705.8	692.9	673.4	654.0
42.5°	674.5	662.6	643.2	624.9
45°	640.0	628.1	609.8	592.5
47.5°	604.4	592.5	575.2	558.0
50°	569.8	558.0	541.8	525.6
52.5°	531.0	521.3	506.2	491.0
55°	493.2	483.5	468.4	454.4
57.5°	455.4	446.8	432.8	419.8
60°	415.5	406.9	396.1	384.2
62.5°	377.7	370.2	359.4	348.6
65°	337.8	331.3	321.6	311.9
67.5°	296.8	291.4	282.8	274.1
70°	255.8	249.3	242.8	235.3
72.5°	214.8	211.5	205.1	198.6
75°	175.9	172.7	167.3	161.9
77.5°	139.2	136.0	131.7	127.3
80°	102.5	100.4	97.1	93.9
82.5°	71.2	69.1	66.9	63.7
85°	43.2	41.0	38.9	36.7
87.5°	19.4	18.3	16.2	15.1
90°	0.0	0.0	0.0	0.0

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