

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: P735600

Luminaire Tested: **4APN6-29-B2750-W2D-3500K**

Issue Date: 1/5/2024



Test Information

Test Method: LM-79-08
Report Number: P735600
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P709119)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 1/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN6-29-B2750-W2D-3500K
Description: 4FT 2900 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 3500K CCT

Light Source: -
Ballast/Driver: -

Summary

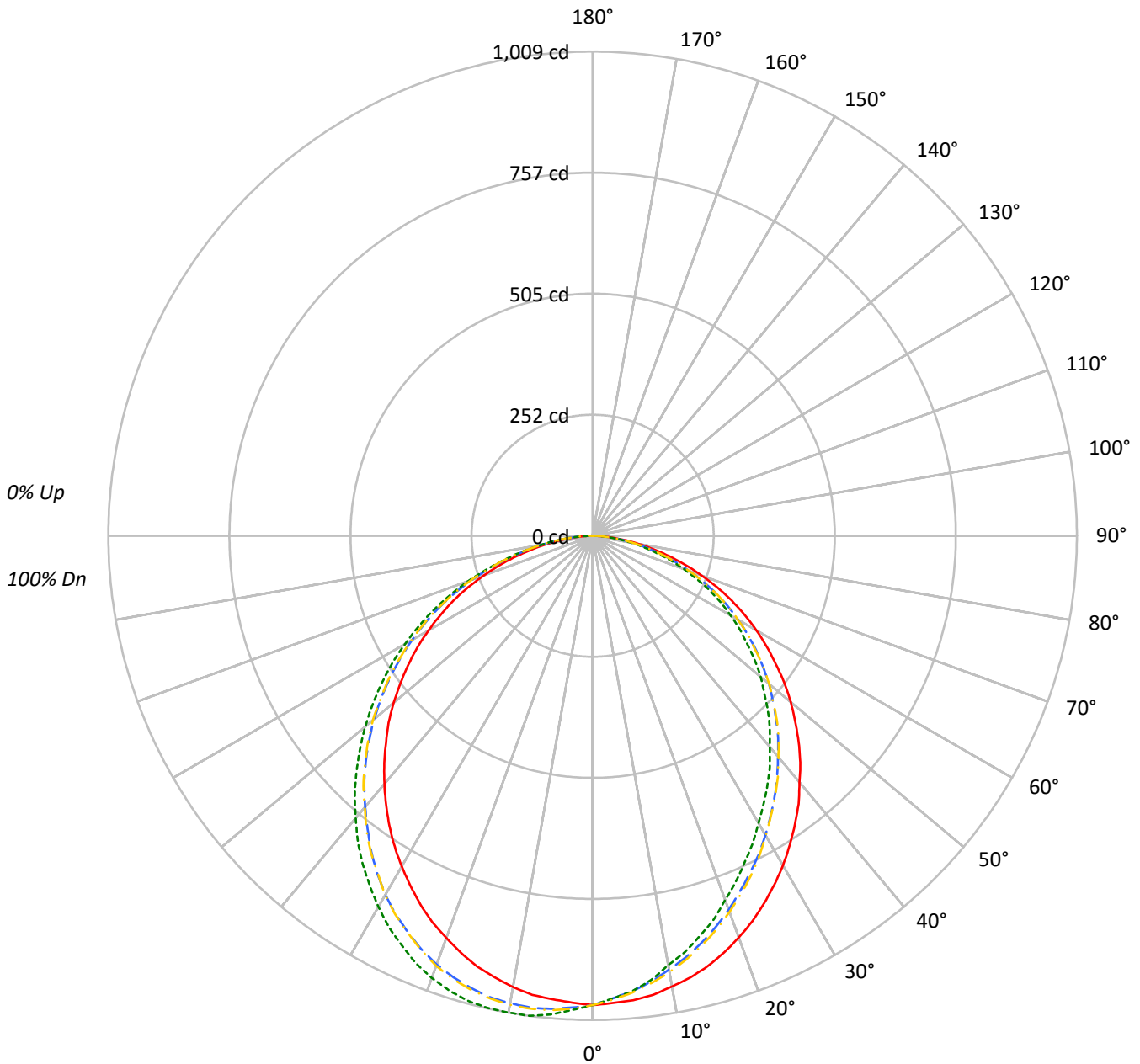
Lumens per Lamp: N/A
Luminaire Lumens: 2623.0 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 28.5
Input Voltage (V): NR
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





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	100																			
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84																			
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70																			
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59																			
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51																			
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44																			
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	38																			
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34																			
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30																			
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27																			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9023	9023	9023	9023
5°	8997	8822	8976	9273
10°	8934	8509	8945	9453
15°	8866	8243	8877	9584
20°	8745	7930	8755	9624
25°	8604	7636	8638	9584
30°	8450	7367	8474	9511
35°	8274	7152	8311	9408
40°	8074	6916	8128	9247
45°	7924	6742	7940	9080
50°	7735	6558	7765	8876
55°	7493	6318	7544	8631
60°	7267	6124	7289	8329
65°	6979	5868	6979	7971
70°	6507	5433	6477	7429
75°	5917	4930	5835	6666
80°	5117	4235	4941	5701
85°	3991	3165	3747	4690



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.4	3.5
10°-20°	262.3	10.0
20°-30°	389.9	14.9
30°-40°	459.5	17.5
40°-50°	467.9	17.8
50°-60°	416.8	15.9
60°-70°	314.0	12.0
70°-80°	174.7	6.7
80°-90°	45.4	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°	744.6	28.4
0°-40°	1204.1	45.9
0°-60°	2088.9	79.6
0°-90°	2623.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2623.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	978	978	978	978	978	
5°	971	953	969	1001	971	92
15°	928	863	929	1003	928	262
25°	845	750	848	942	845	389
35°	735	635	738	835	735	460
45°	607	517	608	696	607	468
55°	466	393	469	537	466	417
65°	320	269	320	365	320	316
75°	166	138	164	187	166	176
85°	38	30	35	44	38	45
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°	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0
2.5°	974.7	974.7	975.8	971.4	965.9	963.6	962.6	961.4	963.6	964.7	963.6
5°	971.4	969.2	966.9	961.4	954.8	950.3	948.1	947.0	949.3	952.6	949.3
7.5°	964.7	960.3	955.9	948.1	940.5	933.7	930.4	928.2	930.4	933.7	931.5
10°	953.6	948.1	941.5	932.7	921.6	913.9	910.6	907.3	908.3	908.3	908.3
12.5°	942.6	934.9	927.2	916.1	903.8	895.0	889.5	885.1	887.2	888.4	888.4
15°	928.2	918.3	907.3	895.0	882.9	872.9	866.3	861.8	863.0	863.0	864.1
17.5°	910.6	899.5	888.4	874.1	859.6	848.5	840.9	835.3	837.5	838.6	839.7
20°	890.7	878.4	866.3	850.8	835.3	823.1	815.3	808.7	807.7	807.7	808.7
22.5°	869.6	856.3	841.9	825.3	808.7	795.4	787.7	781.1	780.0	780.0	781.1
25°	845.2	830.9	816.5	799.9	782.1	769.0	759.0	752.4	751.2	750.1	752.4
27.5°	819.8	805.4	791.1	774.5	755.7	742.4	732.3	725.8	723.5	722.5	724.7
30°	793.2	776.6	761.2	743.4	726.8	713.6	703.6	695.9	693.8	691.5	693.8
32.5°	764.5	747.9	731.3	713.6	697.0	683.7	673.7	666.1	663.9	662.7	664.9
35°	734.6	718.0	702.6	684.8	668.2	655.0	645.0	638.4	636.2	635.0	636.2
37.5°	704.7	688.2	672.7	655.0	638.4	625.1	615.1	608.5	607.3	606.3	607.3
40°	670.4	656.1	640.5	623.9	607.3	594.2	586.4	578.6	576.4	574.2	577.6
42.5°	640.5	626.2	610.8	595.2	578.6	565.3	556.5	549.9	547.7	546.5	547.7
45°	607.3	591.9	576.4	562.0	546.5	534.4	525.6	518.8	517.8	516.7	517.8
47.5°	572.0	558.7	545.4	531.1	515.5	503.4	495.7	489.1	486.8	484.6	486.8
50°	538.9	525.6	512.2	498.9	484.6	473.5	465.8	459.2	458.0	456.9	458.0
52.5°	503.4	490.1	478.0	464.7	452.4	441.4	433.7	428.2	427.0	426.0	427.0
55°	465.8	454.7	443.6	432.6	420.4	410.4	403.8	397.1	395.0	392.8	395.0
57.5°	430.3	420.4	409.4	398.3	387.2	378.4	371.7	366.2	365.1	363.9	365.1
60°	393.8	385.0	375.0	365.1	354.1	345.2	339.7	335.2	333.0	331.9	333.0
62.5°	357.3	348.5	340.8	330.7	320.9	314.1	308.6	304.3	302.0	301.0	302.0
65°	319.7	312.0	304.3	295.4	287.7	281.0	275.4	271.1	269.9	268.8	268.8
67.5°	281.0	274.4	267.8	260.0	251.2	244.5	238.9	235.6	234.6	233.4	234.6
70°	241.2	235.6	229.1	222.3	215.8	210.2	206.9	203.6	202.4	201.4	201.4
72.5°	203.6	199.2	193.6	188.1	182.6	177.0	173.7	171.5	170.4	169.3	169.3
75°	166.0	161.5	158.2	153.8	148.3	144.9	141.6	139.4	138.3	138.3	138.3
77.5°	130.5	127.2	123.9	119.5	116.2	112.9	110.6	109.6	108.4	108.4	108.4
80°	96.3	94.0	91.8	89.6	86.3	83.0	81.9	80.7	79.7	79.7	79.7
82.5°	65.3	64.1	61.9	59.8	57.6	56.4	55.3	54.3	54.3	54.3	54.3
85°	37.7	36.5	35.4	34.2	33.2	33.2	32.1	31.0	29.9	29.9	29.9
87.5°	15.5	15.5	15.5	14.4	13.3	13.3	13.3	13.3	13.3	13.3	13.3
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0
2.5°	961.4	963.6	965.9	969.2	972.5	975.8	974.7	973.7	978.0	983.5	984.7
5°	947.0	949.3	952.6	958.1	963.6	968.1	969.2	969.2	978.0	985.8	988.0
7.5°	929.4	932.7	937.0	942.6	950.3	957.1	960.3	964.7	973.7	983.5	988.0
10°	907.3	912.8	919.4	927.2	934.9	942.6	949.3	954.8	965.9	976.9	983.5
12.5°	887.2	892.8	899.5	908.3	918.3	928.2	934.9	942.6	955.9	969.2	976.9
15°	865.1	870.6	878.4	887.2	898.3	909.4	919.4	929.4	942.6	957.1	965.9
17.5°	840.9	846.4	854.1	865.1	877.4	889.5	900.5	911.6	927.2	942.6	952.6
20°	811.0	818.8	828.6	839.7	854.1	868.5	879.6	891.7	908.3	924.9	936.0
22.5°	782.1	789.9	801.0	814.3	829.8	845.2	858.5	871.8	889.5	906.1	918.3
25°	754.5	763.4	774.5	787.7	802.2	817.6	833.1	848.5	866.3	884.0	896.2
27.5°	726.8	734.6	745.7	759.0	775.5	791.1	806.5	822.0	840.9	859.6	872.9
30°	695.9	704.7	714.7	728.0	745.7	763.4	778.8	795.4	814.3	833.1	846.4
32.5°	667.1	674.9	684.8	698.1	715.8	733.5	750.1	767.8	785.6	804.3	817.6
35°	638.4	646.1	656.1	669.4	687.0	704.7	721.3	737.9	755.7	773.3	786.6
37.5°	609.6	617.4	627.4	640.5	657.1	674.9	690.3	706.9	724.7	742.4	754.5
40°	579.7	587.5	595.2	608.5	625.1	642.8	658.3	674.9	692.6	710.2	722.5
42.5°	549.9	557.6	567.6	580.9	596.3	611.8	627.4	642.8	659.4	676.0	688.2
45°	520.0	526.6	536.6	548.7	564.3	578.6	594.2	608.5	625.1	640.5	652.8
47.5°	489.1	495.7	503.4	515.5	531.1	546.5	562.0	576.4	590.8	606.3	617.4
50°	459.2	465.8	474.6	485.6	500.1	514.5	527.8	541.0	555.5	569.8	579.7
52.5°	428.2	434.8	442.6	453.6	465.8	479.1	491.2	504.5	517.8	531.1	541.0
55°	397.1	401.6	408.2	418.2	431.5	444.8	456.9	469.0	481.3	492.4	502.2
57.5°	366.2	371.7	379.5	388.3	399.4	410.4	421.5	432.6	443.6	454.7	463.5
60°	335.2	339.7	345.2	352.9	363.9	373.9	385.0	395.0	404.9	414.9	422.7
62.5°	303.1	307.6	313.1	320.9	329.7	338.5	348.5	357.3	366.2	375.0	382.8
65°	269.9	274.4	279.9	286.5	294.3	302.0	310.9	319.7	326.4	333.0	340.8
67.5°	235.6	240.1	245.7	251.2	257.8	265.5	273.3	281.0	287.7	294.3	299.8
70°	202.4	205.7	211.3	215.8	221.3	226.8	233.4	240.1	244.5	250.0	256.7
72.5°	170.4	173.7	178.1	182.6	185.9	190.3	196.9	202.4	208.0	214.7	218.0
75°	139.4	141.6	144.9	148.3	151.6	154.9	159.4	163.7	168.2	171.5	176.0
77.5°	108.4	110.6	113.9	116.2	118.4	120.7	123.9	127.2	130.5	132.8	137.2
80°	79.7	81.9	84.0	86.3	88.5	90.8	91.8	93.0	97.3	100.6	102.9
82.5°	54.3	55.3	56.4	58.6	59.8	60.9	61.9	61.9	64.1	66.4	69.7
85°	31.0	32.1	33.2	33.2	33.2	33.2	34.2	35.4	36.5	38.7	41.0
87.5°	12.1	12.1	13.3	13.3	13.3	13.3	13.3	13.3	14.4	16.6	17.7
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°	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0	978.0
2.5°	983.5	984.7	986.8	988.0	989.1	989.1	990.2	991.3	989.1	986.8	985.8
5°	989.1	990.2	993.5	996.8	999.1	1001.3	1000.1	999.1	996.8	993.5	991.3
7.5°	990.2	993.5	996.8	1001.3	1004.6	1009.0	1006.8	1004.6	1000.1	995.8	992.4
10°	986.8	991.3	996.8	1002.4	1005.7	1009.0	1006.8	1004.6	1000.1	994.6	990.2
12.5°	982.5	988.0	994.6	1000.1	1003.4	1007.9	1004.6	1001.3	995.8	990.2	984.7
15°	972.5	979.2	986.8	993.5	999.1	1003.4	1000.1	997.9	991.3	983.5	975.8
17.5°	960.3	969.2	976.9	984.7	989.1	993.5	991.3	989.1	981.3	972.5	963.6
20°	946.0	954.8	962.6	970.2	975.8	980.2	976.9	973.7	965.9	958.1	949.3
22.5°	928.2	937.0	946.0	953.6	959.2	963.6	959.2	953.6	946.0	938.2	929.4
25°	906.1	916.1	926.0	933.7	937.0	941.5	937.0	932.7	924.9	917.1	907.3
27.5°	884.0	894.0	903.8	911.6	914.9	919.4	914.9	910.6	902.8	895.0	885.1
30°	858.5	868.5	878.4	886.2	889.5	892.8	888.4	884.0	877.4	869.6	859.6
32.5°	829.8	839.7	847.5	855.2	859.6	864.1	859.6	856.3	848.5	838.6	828.6
35°	798.7	808.7	818.8	826.4	830.9	835.3	829.8	824.3	817.6	809.8	801.0
37.5°	764.5	775.5	786.6	795.4	798.7	803.2	798.7	793.2	786.6	778.8	769.0
40°	732.3	742.4	752.4	761.2	764.5	767.8	763.4	759.0	751.2	743.4	733.5
42.5°	699.3	709.2	718.0	725.8	729.1	733.5	729.1	723.5	718.0	711.4	702.6
45°	663.9	673.7	681.5	689.3	692.6	695.9	691.5	686.0	680.5	674.9	666.1
47.5°	627.4	636.2	644.0	651.6	653.8	657.1	652.8	649.5	644.0	638.4	630.7
50°	589.7	598.5	606.3	612.9	615.1	618.4	614.1	609.6	605.2	600.8	594.2
52.5°	551.0	558.7	566.5	573.1	575.3	577.6	573.1	568.6	564.3	559.8	553.2
55°	511.2	518.8	526.6	532.1	534.4	536.6	532.1	528.8	524.4	521.1	514.5
57.5°	471.3	479.1	485.6	491.2	493.4	495.7	491.2	486.8	483.5	480.1	474.6
60°	430.3	438.1	443.6	448.1	450.3	451.4	446.9	443.6	441.4	439.3	433.7
62.5°	390.5	396.1	401.6	404.9	407.1	408.2	404.9	402.7	400.6	398.3	393.8
65°	348.5	355.1	359.6	362.9	363.9	365.1	361.8	359.6	357.3	355.1	351.8
67.5°	306.5	312.0	315.3	318.6	319.7	319.7	319.7	318.6	316.4	313.1	309.8
70°	264.4	268.8	272.1	274.4	275.4	275.4	273.3	271.1	271.1	269.9	267.8
72.5°	221.3	224.6	226.8	229.1	229.1	229.1	229.1	230.1	229.1	226.8	223.5
75°	180.3	183.6	185.9	187.0	187.0	187.0	187.0	188.1	187.0	185.9	183.6
77.5°	141.6	143.8	144.9	146.1	146.1	146.1	147.1	148.3	147.1	146.1	144.9
80°	105.1	106.2	107.3	108.4	107.3	107.3	108.4	110.6	109.6	108.4	107.3
82.5°	71.9	73.0	74.2	74.2	75.2	76.4	76.4	76.4	76.4	75.2	74.2
85°	43.2	44.3	44.3	44.3	44.3	44.3	45.3	46.5	46.5	45.3	45.3
87.5°	19.9	21.1	19.9	18.8	17.7	17.7	19.9	22.1	22.1	21.1	21.1
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°	978.0	978.0	978.0	978.0
2.5°	986.8	985.8	980.2	974.7
5°	990.2	986.8	979.2	971.4
7.5°	990.2	985.8	974.7	964.7
10°	984.7	978.0	965.9	953.6
12.5°	978.0	970.2	955.9	942.6
15°	968.1	959.2	943.8	928.2
17.5°	953.6	942.6	927.2	910.6
20°	939.3	927.2	908.3	890.7
22.5°	919.4	908.3	888.4	869.6
25°	897.3	885.1	865.1	845.2
27.5°	874.1	859.6	839.7	819.8
30°	847.5	833.1	813.2	793.2
32.5°	818.8	805.4	785.6	764.5
35°	789.9	775.5	755.7	734.6
37.5°	757.9	744.6	724.7	704.7
40°	723.5	710.2	690.3	670.4
42.5°	691.5	679.3	659.4	640.5
45°	656.1	644.0	625.1	607.3
47.5°	619.6	607.3	589.7	572.0
50°	584.2	572.0	555.5	538.9
52.5°	544.4	534.4	518.8	503.4
55°	505.7	495.7	480.1	465.8
57.5°	466.9	458.0	443.6	430.3
60°	426.0	417.1	406.1	393.8
62.5°	387.2	379.5	368.4	357.3
65°	346.3	339.7	329.7	319.7
67.5°	304.3	298.7	289.9	281.0
70°	262.2	255.5	248.9	241.2
72.5°	220.2	216.8	210.2	203.6
75°	180.3	177.0	171.5	166.0
77.5°	142.8	139.4	135.0	130.5
80°	105.1	102.9	99.6	96.3
82.5°	73.0	70.9	68.6	65.3
85°	44.3	42.0	39.8	37.7
87.5°	19.9	18.8	16.6	15.5
90°	0.0	0.0	0.0	0.0



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













(END OF REPORT)