

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: P735571

Luminaire Tested: **4APN6-19-B2750-W2D-4000K**

Issue Date: 1/5/2024



Test Information

Test Method: LM-79-08
Report Number: P735571
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: 4APN6-19-B2750-W2D-4000K
Description: 4FT 1900 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 4000K CCT

Light Source: -
Ballast/Driver: -

Summary

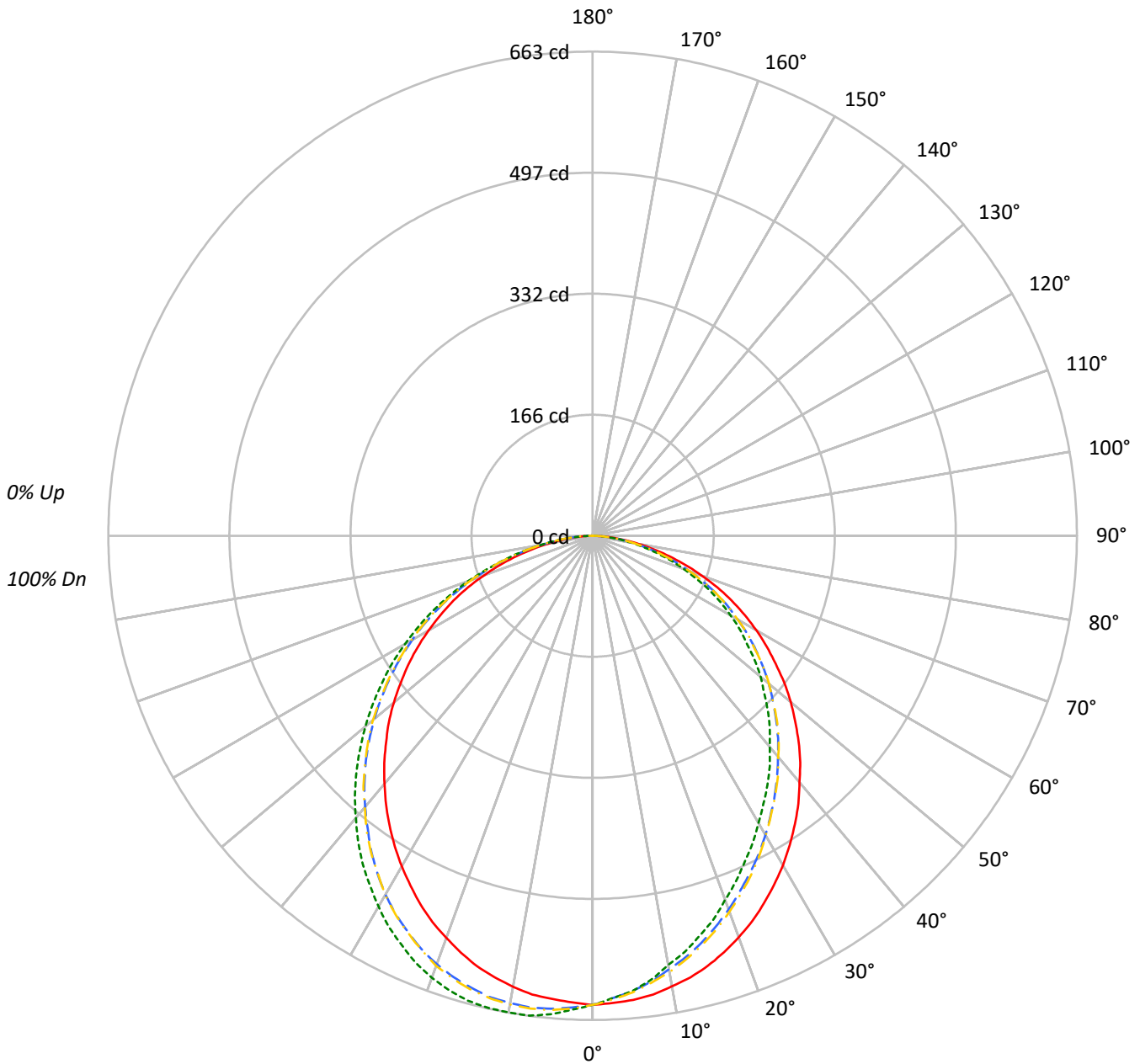
Lumens per Lamp: N/A
Luminaire Lumens: 1723.0 lumens
Efficiency: N/A
Efficacy: 90.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 19
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°	5927	5927	5927	5927
5°	5910	5795	5896	6091
10°	5868	5590	5876	6209
15°	5824	5415	5831	6296
20°	5745	5210	5752	6322
25°	5652	5016	5674	6296
30°	5550	4839	5566	6247
35°	5434	4698	5459	6180
40°	5304	4543	5339	6074
45°	5206	4428	5215	5964
50°	5081	4307	5100	5830
55°	4921	4150	4956	5670
60°	4774	4023	4788	5471
65°	4585	3855	4585	5235
70°	4273	3569	4254	4880
75°	3886	3237	3832	4381
80°	3358	2779	3246	3746
85°	2615	2075	2467	3080



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.7	3.5
10°-20°	172.3	10.0
20°-30°	256.1	14.9
30°-40°	301.9	17.5
40°-50°	307.4	17.8
50°-60°	273.8	15.9
60°-70°	206.3	12.0
70°-80°	114.7	6.7
80°-90°	29.8	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°	489.1	28.4
0°-40°	791.0	45.9
0°-60°	1372.2	79.6
0°-90°	1723.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1723.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	642	642	642	642	642	
5°	638	626	637	658	638	61
15°	610	567	610	659	610	172
25°	555	493	557	618	555	256
35°	482	417	485	549	482	302
45°	399	339	400	457	399	307
55°	306	258	308	352	306	274
65°	210	177	210	240	210	207
75°	109	91	108	123	109	116
85°	25	20	23	29	25	30
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°	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4
2.5°	640.3	640.3	641.0	638.1	634.5	633.0	632.3	631.5	633.0	633.7	633.0
5°	638.1	636.6	635.2	631.5	627.2	624.3	622.8	622.1	623.6	625.7	623.6
7.5°	633.7	630.8	627.9	622.8	617.8	613.4	611.2	609.7	611.2	613.4	611.9
10°	626.4	622.8	618.5	612.7	605.4	600.3	598.1	596.0	596.7	596.7	596.7
12.5°	619.2	614.1	609.0	601.8	593.7	587.9	584.3	581.4	582.8	583.6	583.6
15°	609.7	603.2	596.0	587.9	580.0	573.4	569.1	566.1	566.9	566.9	567.6
17.5°	598.1	590.9	583.6	574.2	564.6	557.4	552.4	548.7	550.1	550.9	551.6
20°	585.1	577.0	569.1	558.8	548.7	540.7	535.6	531.2	530.6	530.6	531.2
22.5°	571.2	562.5	553.1	542.1	531.2	522.5	517.4	513.1	512.4	512.4	513.1
25°	555.2	545.8	536.4	525.5	513.8	505.1	498.5	494.2	493.4	492.7	494.2
27.5°	538.5	529.1	519.7	508.8	496.4	487.6	481.1	476.7	475.3	474.6	476.0
30°	521.0	510.1	500.0	488.3	477.4	468.8	462.2	457.1	455.7	454.2	455.7
32.5°	502.2	491.3	480.4	468.8	457.9	449.1	442.6	437.5	436.1	435.3	436.8
35°	482.5	471.6	461.5	449.8	438.9	430.3	423.7	419.4	417.9	417.1	417.9
37.5°	462.9	452.1	441.9	430.3	419.4	410.6	404.1	399.7	399.0	398.3	399.0
40°	440.4	431.0	420.8	409.9	399.0	390.3	385.2	380.1	378.6	377.2	379.4
42.5°	420.8	411.3	401.2	391.0	380.1	371.4	365.6	361.2	359.8	359.0	359.8
45°	399.0	388.8	378.6	369.2	359.0	351.0	345.2	340.8	340.1	339.4	340.1
47.5°	375.8	367.0	358.3	348.9	338.6	330.7	325.6	321.3	319.8	318.3	319.8
50°	354.0	345.2	336.5	327.7	318.3	311.0	305.9	301.6	300.8	300.1	300.8
52.5°	330.7	322.0	314.0	305.3	297.2	289.9	284.9	281.3	280.5	279.8	280.5
55°	305.9	298.7	291.4	284.1	276.2	269.6	265.3	260.9	259.5	258.0	259.5
57.5°	282.7	276.2	268.9	261.6	254.4	248.6	244.2	240.5	239.8	239.1	239.8
60°	258.7	252.9	246.3	239.8	232.6	226.8	223.1	220.2	218.7	218.0	218.7
62.5°	234.7	228.9	223.8	217.3	210.8	206.4	202.7	199.9	198.4	197.7	198.4
65°	210.0	205.0	199.9	194.1	189.0	184.6	180.9	178.1	177.3	176.6	176.6
67.5°	184.6	180.2	175.9	170.8	165.0	160.6	157.0	154.8	154.1	153.3	154.1
70°	158.4	154.8	150.5	146.0	141.7	138.1	135.9	133.8	133.0	132.3	132.3
72.5°	133.8	130.8	127.2	123.6	119.9	116.3	114.1	112.7	112.0	111.2	111.2
75°	109.0	106.1	103.9	101.1	97.4	95.2	93.0	91.5	90.8	90.8	90.8
77.5°	85.7	83.6	81.4	78.5	76.3	74.1	72.7	72.0	71.2	71.2	71.2
80°	63.2	61.8	60.3	58.8	56.7	54.5	53.8	53.0	52.3	52.3	52.3
82.5°	42.9	42.1	40.7	39.3	37.8	37.0	36.3	35.6	35.6	35.6	35.6
85°	24.7	24.0	23.3	22.5	21.8	21.8	21.1	20.3	19.6	19.6	19.6
87.5°	10.2	10.2	10.2	9.4	8.7	8.7	8.7	8.7	8.7	8.7	8.7
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4
2.5°	631.5	633.0	634.5	636.6	638.8	641.0	640.3	639.6	642.4	646.1	646.8
5°	622.1	623.6	625.7	629.4	633.0	635.9	636.6	636.6	642.4	647.5	649.0
7.5°	610.5	612.7	615.5	619.2	624.3	628.7	630.8	633.7	639.6	646.1	649.0
10°	596.0	599.6	603.9	609.0	614.1	619.2	623.6	627.2	634.5	641.7	646.1
12.5°	582.8	586.4	590.9	596.7	603.2	609.7	614.1	619.2	627.9	636.6	641.7
15°	568.3	571.9	577.0	582.8	590.1	597.4	603.9	610.5	619.2	628.7	634.5
17.5°	552.4	556.0	561.0	568.3	576.3	584.3	591.6	598.8	609.0	619.2	625.7
20°	532.7	537.8	544.3	551.6	561.0	570.5	577.8	585.8	596.7	607.6	614.8
22.5°	513.8	518.9	526.1	534.9	545.1	555.2	564.0	572.7	584.3	595.2	603.2
25°	495.6	501.5	508.8	517.4	526.9	537.0	547.3	557.4	569.1	580.7	588.7
27.5°	477.4	482.5	489.8	498.5	509.4	519.7	529.8	540.0	552.4	564.6	573.4
30°	457.1	462.9	469.5	478.2	489.8	501.5	511.6	522.5	534.9	547.3	556.0
32.5°	438.2	443.3	449.8	458.6	470.2	481.8	492.7	504.3	516.0	528.3	537.0
35°	419.4	424.4	431.0	439.7	451.3	462.9	473.8	484.7	496.4	508.0	516.7
37.5°	400.4	405.5	412.1	420.8	431.7	443.3	453.5	464.4	476.0	487.6	495.6
40°	380.8	385.9	391.0	399.7	410.6	422.2	432.4	443.3	454.9	466.5	474.6
42.5°	361.2	366.2	372.8	381.6	391.7	401.9	412.1	422.2	433.1	444.0	452.1
45°	341.6	345.9	352.5	360.5	370.7	380.1	390.3	399.7	410.6	420.8	428.8
47.5°	321.3	325.6	330.7	338.6	348.9	359.0	369.2	378.6	388.1	398.3	405.5
50°	301.6	305.9	311.7	319.0	328.5	338.0	346.7	355.3	364.9	374.3	380.8
52.5°	281.3	285.6	290.7	298.0	305.9	314.7	322.6	331.4	340.1	348.9	355.3
55°	260.9	263.8	268.1	274.7	283.4	292.2	300.1	308.1	316.2	323.4	329.9
57.5°	240.5	244.2	249.3	255.1	262.3	269.6	276.9	284.1	291.4	298.7	304.5
60°	220.2	223.1	226.8	231.8	239.1	245.6	252.9	259.5	266.0	272.5	277.7
62.5°	199.1	202.0	205.7	210.8	216.6	222.4	228.9	234.7	240.5	246.3	251.4
65°	177.3	180.2	183.9	188.2	193.3	198.4	204.2	210.0	214.4	218.7	223.8
67.5°	154.8	157.7	161.4	165.0	169.3	174.4	179.5	184.6	189.0	193.3	196.9
70°	133.0	135.1	138.8	141.7	145.4	149.0	153.3	157.7	160.6	164.2	168.6
72.5°	112.0	114.1	117.0	119.9	122.1	125.0	129.4	133.0	136.6	141.0	143.2
75°	91.5	93.0	95.2	97.4	99.6	101.8	104.7	107.5	110.5	112.7	115.6
77.5°	71.2	72.7	74.8	76.3	77.8	79.3	81.4	83.6	85.7	87.2	90.2
80°	52.3	53.8	55.2	56.7	58.1	59.6	60.3	61.1	63.9	66.1	67.6
82.5°	35.6	36.3	37.0	38.5	39.3	40.0	40.7	40.7	42.1	43.6	45.8
85°	20.3	21.1	21.8	21.8	21.8	21.8	22.5	23.3	24.0	25.4	26.9
87.5°	8.0	8.0	8.7	8.7	8.7	8.7	8.7	8.7	9.4	10.9	11.6
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°	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4	642.4
2.5°	646.1	646.8	648.2	649.0	649.7	649.7	650.5	651.2	649.7	648.2	647.5
5°	649.7	650.5	652.6	654.8	656.3	657.7	657.0	656.3	654.8	652.6	651.2
7.5°	650.5	652.6	654.8	657.7	659.9	662.8	661.4	659.9	657.0	654.1	651.9
10°	648.2	651.2	654.8	658.4	660.6	662.8	661.4	659.9	657.0	653.3	650.5
12.5°	645.4	649.0	653.3	657.0	659.1	662.1	659.9	657.7	654.1	650.5	646.8
15°	638.8	643.2	648.2	652.6	656.3	659.1	657.0	655.5	651.2	646.1	641.0
17.5°	630.8	636.6	641.7	646.8	649.7	652.6	651.2	649.7	644.6	638.8	633.0
20°	621.4	627.2	632.3	637.3	641.0	643.9	641.7	639.6	634.5	629.4	623.6
22.5°	609.7	615.5	621.4	626.4	630.1	633.0	630.1	626.4	621.4	616.3	610.5
25°	595.2	601.8	608.3	613.4	615.5	618.5	615.5	612.7	607.6	602.5	596.0
27.5°	580.7	587.2	593.7	598.8	601.0	603.9	601.0	598.1	593.0	587.9	581.4
30°	564.0	570.5	577.0	582.1	584.3	586.4	583.6	580.7	576.3	571.2	564.6
32.5°	545.1	551.6	556.7	561.8	564.6	567.6	564.6	562.5	557.4	550.9	544.3
35°	524.7	531.2	537.8	542.8	545.8	548.7	545.1	541.5	537.0	531.9	526.1
37.5°	502.2	509.4	516.7	522.5	524.7	527.6	524.7	521.0	516.7	511.6	505.1
40°	481.1	487.6	494.2	500.0	502.2	504.3	501.5	498.5	493.4	488.3	481.8
42.5°	459.3	465.8	471.6	476.7	478.9	481.8	478.9	475.3	471.6	467.3	461.5
45°	436.1	442.6	447.7	452.8	454.9	457.1	454.2	450.6	447.0	443.3	437.5
47.5°	412.1	417.9	423.0	428.0	429.5	431.7	428.8	426.6	423.0	419.4	414.3
50°	387.4	393.2	398.3	402.6	404.1	406.2	403.4	400.4	397.6	394.6	390.3
52.5°	361.9	367.0	372.1	376.5	377.9	379.4	376.5	373.5	370.7	367.7	363.4
55°	335.8	340.8	345.9	349.6	351.0	352.5	349.6	347.4	344.4	342.3	338.0
57.5°	309.6	314.7	319.0	322.6	324.1	325.6	322.6	319.8	317.6	315.4	311.7
60°	282.7	287.8	291.4	294.3	295.8	296.5	293.6	291.4	289.9	288.6	284.9
62.5°	256.5	260.2	263.8	266.0	267.4	268.1	266.0	264.5	263.1	261.6	258.7
65°	228.9	233.3	236.2	238.4	239.1	239.8	237.7	236.2	234.7	233.3	231.1
67.5°	201.3	205.0	207.1	209.3	210.0	210.0	210.0	209.3	207.8	205.7	203.5
70°	173.7	176.6	178.8	180.2	180.9	180.9	179.5	178.1	178.1	177.3	175.9
72.5°	145.4	147.5	149.0	150.5	150.5	150.5	150.5	151.2	150.5	149.0	146.8
75°	118.4	120.6	122.1	122.9	122.9	122.9	122.9	123.6	122.9	122.1	120.6
77.5°	93.0	94.5	95.2	96.0	96.0	96.0	96.6	97.4	96.6	96.0	95.2
80°	69.0	69.7	70.5	71.2	70.5	70.5	71.2	72.7	72.0	71.2	70.5
82.5°	47.2	47.9	48.7	48.7	49.4	50.2	50.2	50.2	50.2	49.4	48.7
85°	28.4	29.1	29.1	29.1	29.1	29.1	29.8	30.5	30.5	29.8	29.8
87.5°	13.1	13.8	13.1	12.4	11.6	11.6	13.1	14.5	14.5	13.8	13.8
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°	642.4	642.4	642.4	642.4
2.5°	648.2	647.5	643.9	640.3
5°	650.5	648.2	643.2	638.1
7.5°	650.5	647.5	640.3	633.7
10°	646.8	642.4	634.5	626.4
12.5°	642.4	637.3	627.9	619.2
15°	635.9	630.1	619.9	609.7
17.5°	626.4	619.2	609.0	598.1
20°	617.0	609.0	596.7	585.1
22.5°	603.9	596.7	583.6	571.2
25°	589.4	581.4	568.3	555.2
27.5°	574.2	564.6	551.6	538.5
30°	556.7	547.3	534.2	521.0
32.5°	537.8	529.1	516.0	502.2
35°	518.9	509.4	496.4	482.5
37.5°	497.9	489.1	476.0	462.9
40°	475.3	466.5	453.5	440.4
42.5°	454.2	446.2	433.1	420.8
45°	431.0	423.0	410.6	399.0
47.5°	407.0	399.0	387.4	375.8
50°	383.7	375.8	364.9	354.0
52.5°	357.6	351.0	340.8	330.7
55°	332.2	325.6	315.4	305.9
57.5°	306.7	300.8	291.4	282.7
60°	279.8	274.0	266.7	258.7
62.5°	254.4	249.3	242.0	234.7
65°	227.5	223.1	216.6	210.0
67.5°	199.9	196.2	190.4	184.6
70°	172.3	167.9	163.5	158.4
72.5°	144.7	142.4	138.1	133.8
75°	118.4	116.3	112.7	109.0
77.5°	93.8	91.5	88.7	85.7
80°	69.0	67.6	65.4	63.2
82.5°	47.9	46.5	45.1	42.9
85°	29.1	27.6	26.1	24.7
87.5°	13.1	12.4	10.9	10.2
90°	0.0	0.0	0.0	0.0



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













(END OF REPORT)