

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P583932

Luminaire Tested: **HC815D010-HM80520930-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583932
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC815D010-HM80520930-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1361.1 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

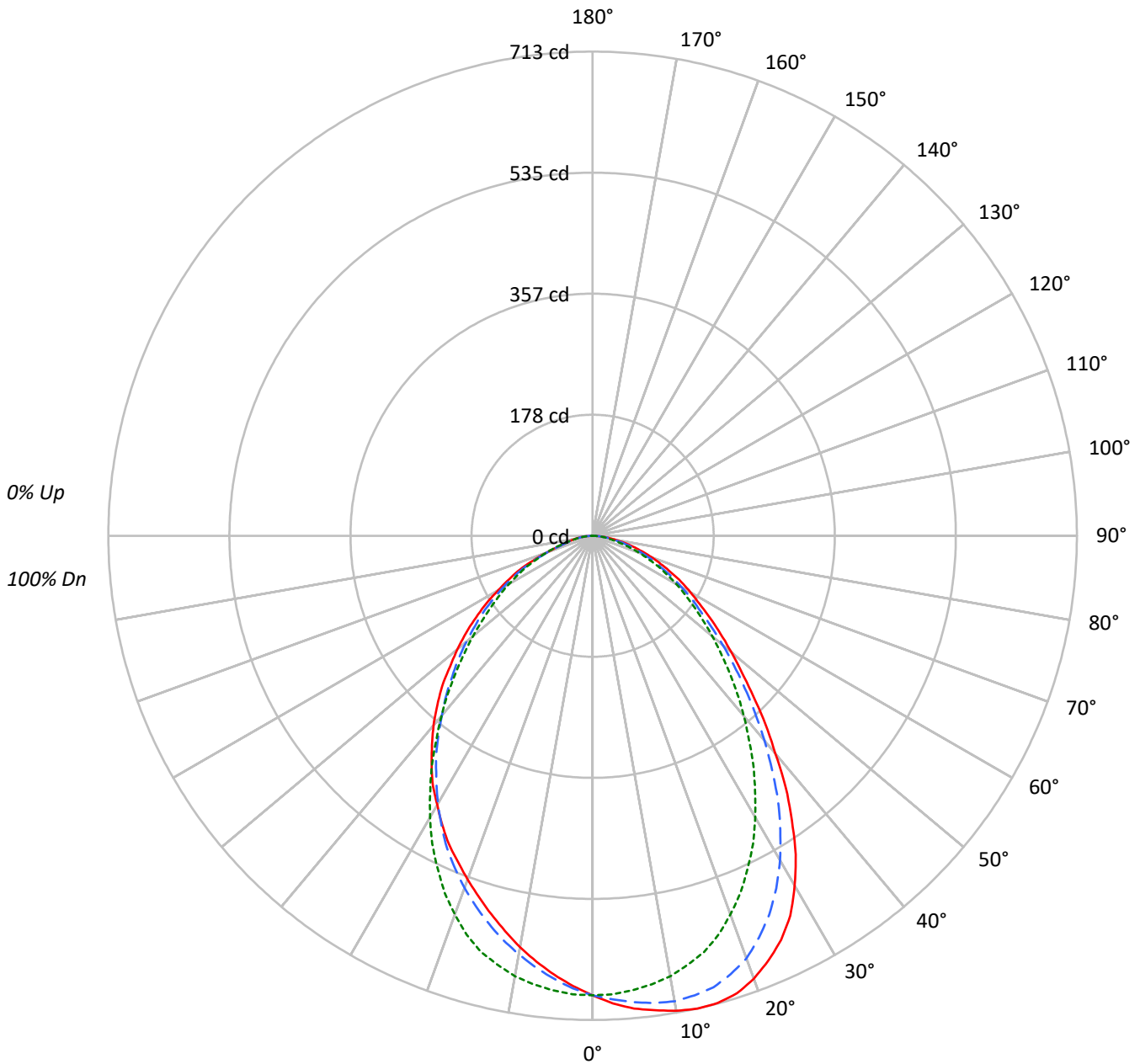
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75																			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65																			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57																			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50																			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45																			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40																			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37																			
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	20867	20867	20867
5°	21634	20798	20086
10°	22241	20619	19266
15°	22740	20253	18414
20°	22777	19463	17664
25°	22340	18380	17039
30°	21186	17045	16290
35°	19251	15524	15558
40°	16830	13932	14665
45°	14587	12407	13667
50°	12775	11024	12454
55°	11371	9768	11263
60°	10256	8776	9898
65°	9259	7720	8624
70°	8322	6500	6410
75°	7339	5159	4813
80°	6144	4262	4599
85°	4776	3750	4104



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.8	4.7
10°-20°	179.8	13.2
20°-30°	257.0	18.9
30°-40°	273.1	20.1
40°-50°	235.1	17.3
50°-60°	175.8	12.9
60°-70°	112.1	8.2
70°-80°	51.0	3.7
80°-90°	13.4	1.0
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°	500.7	36.8
0°-40°	773.7	56.8
0°-60°	1184.6	87.0
0°-90°	1361.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1361.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	677	677	677	677	677	
5°	699	689	672	655	649	67
15°	712	688	634	591	577	201
25°	657	615	540	508	501	301
35°	511	476	412	402	413	318
45°	334	316	284	292	313	260
55°	212	194	182	197	210	190
65°	127	112	106	110	118	127
75°	62	53	43	39	40	65
85°	14	12	11	12	12	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7
2.5°	689.3	687.3	688.3	687.3	688.3	688.3	686.4	686.4	686.4	686.4	683.5
5°	698.9	697.9	697.9	697.0	696.0	697.0	696.0	695.0	693.1	692.2	689.3
7.5°	704.7	704.7	704.7	704.7	703.7	702.8	701.8	699.9	697.9	696.0	694.1
10°	710.3	711.3	710.3	709.4	708.4	706.5	705.6	703.7	700.8	697.9	696.0
12.5°	713.2	713.2	712.3	712.3	710.3	709.4	706.5	703.7	700.8	697.9	693.1
15°	712.3	712.3	711.3	710.3	707.5	706.5	704.7	701.8	697.0	693.1	688.3
17.5°	706.5	705.6	703.7	703.7	699.9	698.9	697.0	693.1	688.3	682.5	676.7
20°	694.1	694.1	693.1	692.2	688.3	685.4	683.5	678.7	674.8	668.1	662.4
22.5°	676.7	678.7	676.7	674.8	670.0	669.0	666.1	660.5	654.7	647.0	640.2
25°	656.6	655.6	654.7	652.7	648.9	647.0	643.1	637.3	631.5	622.9	615.3
27.5°	630.6	626.7	626.7	622.9	620.1	617.2	615.3	609.5	601.8	595.0	585.4
30°	595.0	596.0	591.2	590.2	585.4	583.5	579.6	573.9	567.2	559.5	551.8
32.5°	556.6	553.7	553.7	549.8	546.0	543.1	542.1	535.4	529.7	522.0	514.3
35°	511.4	511.4	508.5	507.5	503.7	501.8	498.9	495.0	488.4	481.6	475.9
37.5°	467.2	465.3	464.3	462.4	459.5	456.6	456.6	449.8	449.0	441.3	433.6
40°	418.1	420.1	418.1	415.2	414.3	412.4	411.4	407.5	404.8	398.0	393.2
42.5°	376.8	374.9	374.9	373.9	370.1	370.1	368.1	366.2	361.5	359.6	353.8
45°	334.5	336.4	333.5	334.5	330.7	330.7	330.7	326.8	322.9	320.2	316.3
47.5°	298.0	299.0	299.0	296.1	295.1	295.1	293.2	291.2	288.4	284.5	281.6
50°	266.3	267.3	265.3	264.4	262.4	261.5	261.5	257.6	255.7	251.8	249.9
52.5°	237.4	237.4	236.4	236.4	233.6	233.6	231.7	228.8	226.9	225.0	220.2
55°	211.5	211.5	210.5	209.5	209.5	206.7	205.7	202.8	200.9	197.0	194.1
57.5°	186.5	187.5	186.5	185.6	184.6	183.6	181.7	178.8	176.9	174.0	172.1
60°	166.3	166.3	165.3	164.4	162.4	161.5	160.5	158.6	155.7	153.8	150.9
62.5°	147.1	146.2	145.2	144.2	142.3	142.3	140.4	138.5	135.6	133.6	131.7
65°	126.9	126.9	125.9	125.9	125.0	123.0	122.1	121.1	117.2	116.3	112.4
67.5°	108.6	109.5	107.6	107.6	105.8	105.8	104.8	101.9	101.0	99.1	97.1
70°	92.3	92.3	92.3	91.3	89.4	88.4	87.5	85.6	84.6	82.7	80.7
72.5°	75.9	75.9	75.0	75.0	74.0	73.0	72.1	70.1	70.1	68.2	66.3
75°	61.6	61.6	60.6	59.6	58.7	58.7	57.7	56.8	54.8	53.9	52.9
77.5°	47.1	47.1	47.1	46.2	45.2	45.2	45.2	43.3	41.3	41.3	40.4
80°	34.6	34.6	33.6	33.6	32.7	32.7	32.7	31.7	30.7	29.8	28.8
82.5°	23.0	23.0	23.0	23.0	22.1	22.1	22.1	21.2	20.2	20.2	20.2
85°	13.5	13.5	13.5	13.5	12.5	12.5	12.5	12.5	12.5	11.6	11.6
87.5°	5.8	4.8	5.8	4.8	5.8	4.8	5.8	4.8	4.8	4.8	4.8
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7
2.5°	684.4	683.5	682.5	681.5	681.5	680.6	678.7	677.7	676.7	675.8	675.8
5°	688.3	687.3	685.4	683.5	682.5	680.6	678.7	676.7	674.8	671.9	670.9
7.5°	691.2	688.3	686.4	682.5	681.5	679.6	676.7	673.8	670.0	666.1	663.4
10°	691.2	687.3	684.4	679.6	677.7	675.8	671.9	667.1	662.4	658.5	653.7
12.5°	689.3	684.4	679.6	674.8	671.9	669.0	663.4	658.5	652.7	647.0	643.1
15°	682.5	676.7	670.9	665.2	662.4	658.5	652.7	646.0	640.2	634.4	627.7
17.5°	670.0	664.2	657.6	650.8	647.0	644.1	635.4	630.6	621.9	616.2	610.5
20°	653.7	647.0	638.3	631.5	626.7	623.8	617.2	608.5	601.8	593.1	587.3
22.5°	632.5	623.8	615.3	608.5	603.7	599.8	591.2	582.5	576.8	569.1	562.4
25°	607.6	598.9	590.2	580.6	575.9	572.0	564.3	556.6	548.9	540.2	534.5
27.5°	577.8	568.2	560.4	551.8	546.9	541.2	532.6	524.9	517.2	511.4	503.7
30°	545.0	534.5	526.8	518.2	513.3	508.5	499.8	492.2	485.5	478.7	474.9
32.5°	505.6	497.9	490.3	481.6	477.8	474.9	466.2	458.5	450.8	445.1	442.2
35°	468.1	459.5	452.7	445.1	440.3	437.4	429.7	423.0	419.1	412.4	408.5
37.5°	428.7	422.0	414.3	406.7	403.8	400.9	395.1	388.4	382.6	377.8	375.8
40°	387.4	381.6	374.9	370.1	367.2	364.3	359.6	354.8	350.9	346.1	344.1
42.5°	348.0	344.1	338.4	332.6	329.7	328.7	322.9	319.2	317.3	315.3	313.4
45°	312.5	306.7	302.8	299.0	296.1	294.1	291.2	288.4	286.4	284.5	282.6
47.5°	277.9	273.1	269.2	266.3	263.4	262.4	260.5	257.6	255.7	255.7	255.7
50°	246.1	242.2	238.3	236.4	235.5	233.6	231.7	230.8	229.8	229.8	229.8
52.5°	218.2	214.4	211.5	209.5	209.5	207.6	205.7	204.7	204.7	204.7	204.7
55°	192.3	189.4	187.5	185.6	183.6	182.7	182.7	182.7	181.7	181.7	182.7
57.5°	169.2	167.3	164.4	162.4	161.5	161.5	160.5	159.5	160.5	161.5	162.4
60°	148.1	146.2	145.2	142.3	142.3	142.3	141.3	141.3	141.3	142.3	143.3
62.5°	128.8	127.9	125.9	125.0	124.0	124.0	123.0	123.0	123.0	123.0	124.0
65°	111.5	109.5	107.6	107.6	107.6	106.8	106.8	104.8	105.8	105.8	104.8
67.5°	95.2	93.3	92.3	91.3	90.4	90.4	89.4	88.4	87.5	87.5	87.5
70°	79.8	77.8	77.8	75.9	75.9	75.0	74.0	74.0	73.0	72.1	71.1
72.5°	64.3	63.5	62.5	61.6	61.6	61.6	60.6	59.6	58.7	57.7	55.8
75°	51.0	51.0	49.0	48.1	48.1	47.1	46.2	45.2	44.2	43.3	42.3
77.5°	39.4	38.4	36.5	35.5	35.5	35.5	34.6	33.6	32.7	31.7	30.7
80°	28.8	27.8	26.9	25.9	25.9	25.9	24.9	24.9	24.0	24.0	24.0
82.5°	19.3	19.3	18.3	18.3	18.3	18.3	17.4	17.4	17.4	17.4	17.4
85°	11.6	11.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
87.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7
2.5°	673.8	673.8	671.9	670.9	670.0	670.9	669.0	668.1	667.1	667.1	666.1
5°	668.1	667.1	663.4	662.4	661.4	660.5	658.5	656.6	654.7	653.7	652.7
7.5°	660.5	657.6	653.7	652.7	651.8	648.9	646.0	644.1	641.2	640.2	638.3
10°	649.9	646.0	643.1	640.2	638.3	635.4	632.5	629.6	625.8	624.8	621.9
12.5°	637.3	632.5	626.7	625.8	622.9	619.1	615.3	612.4	609.5	607.6	604.7
15°	621.9	617.2	611.4	608.5	605.6	602.7	597.9	594.1	591.2	588.3	585.4
17.5°	603.7	597.9	593.1	590.2	588.3	583.5	579.6	574.9	572.0	569.1	566.2
20°	581.5	576.8	570.1	567.2	566.2	562.4	557.6	555.6	551.8	548.9	546.9
22.5°	556.6	551.8	546.0	544.1	540.2	538.3	533.6	531.6	529.7	526.8	525.9
25°	528.8	523.9	519.1	518.2	515.3	513.3	510.4	507.5	507.5	504.7	504.7
27.5°	499.8	495.0	491.3	489.4	488.4	486.5	483.6	482.6	481.6	480.7	480.7
30°	469.1	463.3	461.4	460.4	459.5	457.5	456.6	454.6	455.6	456.6	455.6
32.5°	436.5	434.5	430.7	428.7	429.7	428.7	426.8	428.7	427.8	429.7	430.7
35°	404.8	402.8	400.9	400.9	399.0	399.0	399.0	399.9	401.9	402.8	404.8
37.5°	373.9	371.0	370.1	369.1	370.1	370.1	370.1	372.0	373.9	375.8	378.7
40°	341.3	339.3	339.3	339.3	339.3	342.2	341.3	343.2	345.1	348.0	350.9
42.5°	310.5	310.5	311.5	311.5	311.5	311.5	313.4	316.3	319.2	322.0	324.9
45°	281.6	281.6	281.6	283.5	283.5	284.5	288.4	290.3	292.2	295.1	298.0
47.5°	254.7	254.7	255.7	256.7	257.6	259.6	261.5	264.4	267.3	269.2	272.1
50°	229.8	230.8	232.7	234.6	234.6	235.5	238.3	240.3	242.2	245.1	246.1
52.5°	205.7	207.6	209.5	210.5	211.5	213.4	214.4	217.3	218.2	221.1	222.1
55°	183.6	184.6	187.5	188.5	188.5	190.4	192.3	194.1	197.0	197.0	198.9
57.5°	163.4	164.4	166.3	167.3	166.3	169.2	170.1	172.1	173.0	175.0	175.9
60°	143.3	145.2	146.2	146.2	147.1	148.1	149.9	149.9	151.8	153.8	153.8
62.5°	124.0	125.0	125.9	126.9	127.9	126.9	129.8	129.8	131.7	132.7	134.6
65°	105.8	106.8	106.8	107.6	107.6	108.6	108.6	109.5	110.5	112.4	113.4
67.5°	87.5	87.5	87.5	88.4	87.5	88.4	88.4	89.4	89.4	91.3	92.3
70°	71.1	70.1	69.2	69.2	69.2	69.2	68.2	69.2	69.2	70.1	70.1
72.5°	54.8	53.9	52.9	51.9	51.9	51.0	50.0	51.0	51.0	51.9	51.9
75°	41.3	39.4	39.4	39.4	38.4	38.4	38.4	39.4	39.4	39.4	40.4
77.5°	30.7	30.7	29.8	29.8	29.8	30.7	30.7	31.7	31.7	31.7	31.7
80°	23.0	24.0	24.0	24.0	24.0	24.9	24.9	24.9	24.9	25.9	25.9
82.5°	17.4	17.4	17.4	17.4	18.3	18.3	18.3	18.3	18.3	18.3	18.3
85°	10.6	11.6	11.6	10.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
87.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	676.7	676.7	676.7	676.7	676.7	676.7	676.7	676.7
2.5°	665.2	665.2	665.2	665.2	664.2	664.2	664.2	663.4
5°	650.8	650.8	650.8	648.9	649.9	649.9	647.9	648.9
7.5°	636.4	635.4	634.4	634.4	633.5	632.5	631.5	632.5
10°	620.1	617.2	617.2	616.2	616.2	614.3	614.3	615.3
12.5°	601.8	599.8	599.8	598.9	597.9	597.0	596.0	596.0
15°	583.5	581.5	580.6	579.6	578.6	576.8	577.8	576.8
17.5°	565.3	562.4	562.4	561.4	560.4	558.5	558.5	557.6
20°	544.1	543.1	541.2	542.1	541.2	539.2	538.3	538.3
22.5°	523.0	523.0	522.0	522.0	521.0	520.1	519.1	519.1
25°	502.7	501.8	502.7	502.7	499.8	499.8	499.8	500.8
27.5°	479.7	480.7	479.7	479.7	479.7	479.7	480.7	479.7
30°	456.6	456.6	456.6	457.5	459.5	458.5	458.5	457.5
32.5°	431.6	432.6	432.6	433.6	434.5	436.5	436.5	437.4
35°	406.7	408.5	409.5	408.5	411.4	411.4	413.3	413.3
37.5°	380.7	381.6	383.6	384.5	386.4	387.4	388.4	388.4
40°	352.8	356.7	357.6	358.6	361.5	361.5	362.5	364.3
42.5°	326.8	330.7	331.6	332.6	334.5	337.4	336.4	338.4
45°	301.9	304.7	305.7	306.7	309.6	310.5	310.5	313.4
47.5°	275.0	276.9	277.9	279.7	281.6	283.5	285.5	284.5
50°	248.0	250.9	252.8	253.8	256.7	257.6	258.6	259.6
52.5°	224.0	225.9	226.9	227.9	230.8	231.7	232.7	234.6
55°	200.9	201.8	203.8	202.8	205.7	206.7	207.6	209.5
57.5°	177.9	178.8	179.8	179.8	181.7	183.6	184.6	185.6
60°	155.7	157.6	158.6	158.6	158.6	160.5	160.5	160.5
62.5°	135.6	135.6	136.5	136.5	138.5	138.5	138.5	138.5
65°	114.4	115.3	116.3	116.3	118.2	117.2	119.2	118.2
67.5°	92.3	92.3	94.2	94.2	93.3	94.2	94.2	94.2
70°	70.1	70.1	71.1	71.1	71.1	71.1	71.1	71.1
72.5°	51.9	51.9	51.9	52.9	51.9	51.9	52.9	51.9
75°	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
77.5°	31.7	31.7	32.7	32.7	32.7	32.7	32.7	32.7
80°	25.9	25.9	25.9	25.9	26.9	25.9	25.9	25.9
82.5°	19.3	18.3	19.3	18.3	19.3	19.3	19.3	19.3
85°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
87.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)