

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: P583862

Luminaire Tested: **HC815D010-HM80520830-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583862
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC815D010-HM80520830-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1324.8 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

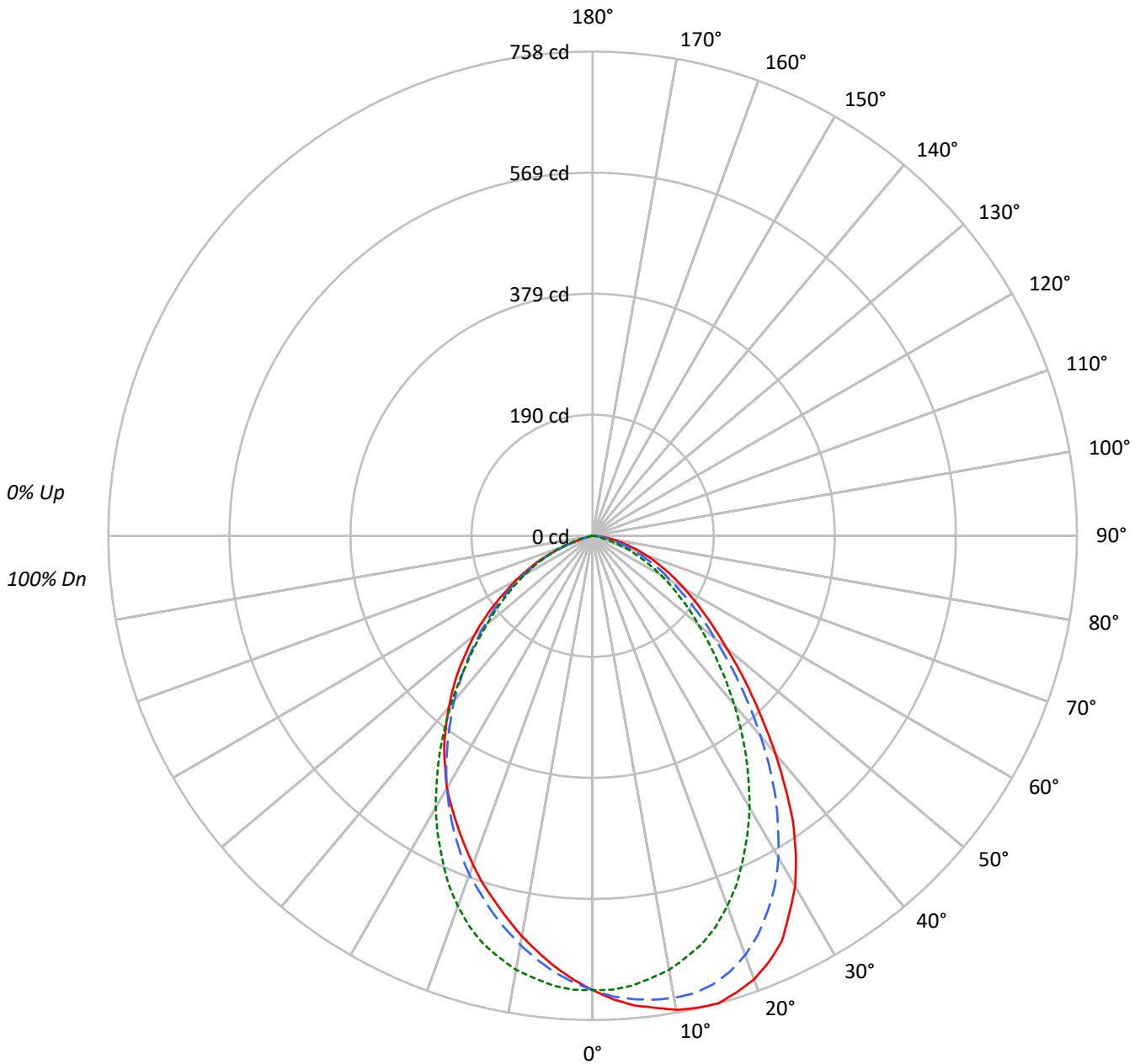
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47																			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43																			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39																			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21931	21931	21931
5°	22838	21885	20962
10°	23600	21605	19939
15°	24195	21111	18902
20°	24247	20234	17970
25°	23837	18955	17036
30°	22560	17490	16240
35°	20573	15728	15246
40°	17889	13863	14081
45°	15346	12006	12891
50°	13106	10353	11581
55°	11483	8914	10059
60°	10225	7604	8455
65°	9077	6209	6749
70°	8051	4598	3832
75°	6720	2407	1132
80°	5292	746	195
85°	3750	389	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.0	5.1
10°-20°	187.8	14.2
20°-30°	265.9	20.1
30°-40°	278.1	21.0
40°-50°	232.0	17.5
50°-60°	164.5	12.4
60°-70°	94.7	7.2
70°-80°	30.5	2.3
80°-90°	4.2	0.3
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°	520.7	39.3
0°-40°	798.8	60.3
0°-60°	1195.3	90.2
0°-90°	1324.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1324.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	711	711	711	711	711	
5°	738	728	707	686	677	71
15°	758	727	661	609	592	213
25°	701	648	557	512	501	320
35°	546	499	418	396	405	339
45°	352	323	275	278	296	273
55°	214	191	166	174	187	193
65°	124	104	85	85	92	124
75°	56	42	20	10	10	61
85°	11	5	1	0	0	13
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°	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2
2.5°	726.1	725.0	724.0	725.0	724.0	725.0	724.0	724.0	722.9	721.8	721.8
5°	737.8	736.7	736.7	736.7	735.7	734.6	734.6	733.5	731.4	730.4	728.2
7.5°	745.2	746.3	746.3	746.3	744.2	744.2	742.0	739.9	737.8	735.7	732.5
10°	753.7	753.7	752.6	751.6	749.5	748.4	747.3	745.2	742.0	737.8	734.6
12.5°	757.0	757.0	755.9	753.7	752.6	751.6	750.6	747.3	743.1	737.8	733.5
15°	757.9	755.9	754.8	753.7	751.6	748.4	748.4	744.2	738.9	732.5	727.1
17.5°	749.5	750.6	748.4	746.3	743.1	741.0	737.8	734.6	728.2	720.8	715.4
20°	738.9	737.8	736.7	733.5	729.3	728.2	725.0	719.7	714.4	705.9	698.4
22.5°	721.8	720.8	718.7	716.5	712.3	710.1	707.0	700.6	693.1	684.7	676.1
25°	700.6	698.4	695.3	691.1	687.8	685.6	681.4	675.0	666.6	657.0	648.5
27.5°	666.6	669.7	667.6	661.3	658.1	653.8	652.7	644.2	636.8	627.2	617.7
30°	633.6	633.6	630.5	627.2	621.9	618.8	614.4	608.0	600.7	589.0	581.5
32.5°	592.1	591.1	586.8	585.8	581.5	575.1	574.1	565.5	558.2	549.6	540.1
35°	546.5	544.3	540.1	536.8	534.8	531.5	528.4	520.9	513.5	505.0	498.6
37.5°	494.3	494.3	493.3	487.9	485.9	483.7	480.6	473.1	468.9	460.3	453.9
40°	444.4	443.3	440.1	439.1	436.9	433.8	431.6	427.4	421.0	414.6	408.3
42.5°	395.5	396.6	392.2	393.3	389.1	386.9	386.0	379.6	376.3	369.9	364.6
45°	351.9	350.8	348.7	347.6	345.5	343.4	341.3	338.1	332.7	326.3	323.2
47.5°	311.5	308.2	308.2	307.3	306.2	302.0	300.9	297.6	294.5	288.1	283.9
50°	273.2	273.2	273.2	272.2	269.0	267.9	265.8	262.6	259.4	255.1	248.7
52.5°	242.3	242.3	242.3	241.4	237.0	236.1	235.0	230.6	226.4	223.3	218.9
55°	213.6	214.7	213.6	211.6	208.3	208.3	205.2	203.0	198.8	195.6	191.4
57.5°	189.2	189.2	187.1	186.1	183.9	182.8	180.8	178.6	173.3	170.1	164.7
60°	165.8	164.7	164.7	162.7	160.5	158.5	157.4	154.1	152.1	146.6	142.4
62.5°	144.6	144.6	142.4	142.4	138.2	138.2	137.1	134.0	130.7	125.4	123.3
65°	124.4	124.4	123.3	122.3	119.1	118.0	116.9	113.8	110.6	107.4	104.2
67.5°	106.3	106.3	104.2	103.1	101.0	99.9	97.8	95.7	92.5	89.3	86.2
70°	89.3	88.2	87.1	86.2	84.0	82.9	80.7	78.7	75.4	73.4	70.1
72.5°	72.3	72.3	71.2	69.0	68.1	67.0	65.9	63.7	60.6	57.4	55.3
75°	56.4	56.4	56.4	54.2	52.1	51.0	51.0	48.9	46.8	43.6	41.5
77.5°	43.6	42.5	41.5	41.5	39.3	38.3	37.2	36.2	32.9	31.9	29.8
80°	29.8	30.8	29.8	28.7	27.6	26.6	26.6	24.5	23.4	21.2	19.2
82.5°	20.2	19.2	19.2	18.1	18.1	17.0	17.0	14.9	13.9	12.8	11.7
85°	10.6	10.6	9.5	9.5	9.5	8.6	8.6	7.5	7.5	6.4	5.3
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.2	2.2	2.2
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°	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2
2.5°	720.8	718.7	717.6	717.6	716.5	715.4	714.4	713.4	711.2	711.2	709.1
5°	726.1	724.0	722.9	719.7	717.6	717.6	713.4	712.3	709.1	707.0	704.8
7.5°	730.4	726.1	722.9	719.7	717.6	715.4	711.2	707.0	702.8	698.4	696.4
10°	730.4	726.1	720.8	715.4	713.4	711.2	705.9	699.5	694.2	690.0	684.7
12.5°	728.2	721.8	715.4	711.2	707.0	703.7	697.3	691.1	684.7	676.1	671.9
15°	721.8	713.4	707.0	699.5	696.4	691.1	685.6	676.1	668.7	661.3	655.9
17.5°	709.1	698.4	691.1	683.6	678.3	675.0	666.6	658.1	649.5	641.1	634.7
20°	690.0	680.3	671.9	662.3	658.1	653.8	643.2	634.7	626.1	616.6	610.2
22.5°	666.6	657.0	645.3	637.8	631.4	626.1	616.6	607.1	598.5	590.0	581.5
25°	637.8	628.3	617.7	606.0	601.7	596.4	585.8	576.2	566.6	557.1	549.6
27.5°	607.1	594.3	585.8	573.0	568.8	563.5	551.8	541.2	532.6	525.1	516.7
30°	569.8	560.2	548.5	536.8	532.6	527.3	517.7	508.1	499.7	491.2	482.6
32.5°	529.5	519.8	508.1	499.7	493.3	489.0	479.5	470.9	462.5	453.9	446.5
35°	486.9	476.2	467.8	459.2	453.9	448.6	439.1	431.6	425.2	417.8	410.3
37.5°	443.3	435.8	427.4	417.8	412.5	408.3	400.8	392.2	386.9	380.5	375.2
40°	400.8	392.2	384.9	376.3	372.1	368.9	361.5	355.1	349.8	344.4	341.3
42.5°	357.2	349.8	342.3	337.0	333.8	330.7	325.4	317.9	314.6	309.3	306.2
45°	316.8	310.4	305.1	297.6	295.6	293.4	287.0	281.7	278.5	275.3	273.2
47.5°	278.5	274.3	267.9	263.7	260.4	258.4	254.1	249.8	246.7	244.5	242.3
50°	245.6	240.3	236.1	231.7	229.7	226.4	222.2	220.0	218.0	215.8	215.8
52.5°	214.7	209.4	205.2	202.0	199.9	197.7	194.5	193.5	191.4	191.4	190.3
55°	186.1	182.8	178.6	174.4	173.3	172.2	170.1	168.0	166.9	165.8	166.9
57.5°	161.6	158.5	154.1	151.0	149.9	148.8	147.7	145.7	144.6	144.6	144.6
60°	139.3	136.0	132.9	129.7	129.7	127.6	126.5	125.4	124.4	123.3	123.3
62.5°	119.1	115.9	112.7	110.6	109.5	108.4	106.3	105.2	104.2	104.2	103.1
65°	101.0	96.8	95.7	92.5	91.5	90.4	89.3	87.1	86.2	85.1	84.0
67.5°	82.9	80.7	77.6	75.4	74.5	73.4	72.3	70.1	69.0	68.1	65.9
70°	67.0	64.8	62.8	60.6	59.5	58.4	56.4	54.2	53.1	51.0	47.8
72.5°	52.1	50.0	47.8	45.7	44.7	43.6	41.5	39.3	37.2	35.1	32.9
75°	39.3	37.2	34.0	31.9	30.8	30.8	27.6	25.5	23.4	20.2	18.1
77.5°	27.6	24.5	23.4	21.2	20.2	18.1	15.9	13.9	11.7	10.6	8.6
80°	18.1	15.9	13.9	12.8	11.7	10.6	9.5	7.5	5.3	4.2	3.1
82.5°	10.6	9.5	8.6	7.5	6.4	5.3	4.2	4.2	3.1	2.2	1.1
85°	5.3	4.2	3.1	3.1	2.2	2.2	2.2	1.1	1.1	1.1	1.1
87.5°	2.2	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2
2.5°	708.1	707.0	705.9	704.8	704.8	702.8	702.8	701.7	699.5	698.4	698.4
5°	701.7	698.4	696.4	695.3	694.2	691.1	690.0	687.8	685.6	683.6	682.5
7.5°	692.0	686.7	684.7	683.6	680.3	677.2	675.0	671.9	668.7	665.5	664.4
10°	680.3	675.0	669.7	667.6	664.4	662.3	658.1	653.8	650.6	647.4	644.2
12.5°	665.5	659.1	653.8	651.7	648.5	644.2	637.8	635.8	630.5	628.3	624.1
15°	648.5	641.1	635.8	632.5	629.4	623.0	618.8	614.4	609.1	607.1	602.7
17.5°	627.2	618.8	613.5	610.2	608.0	602.7	596.4	591.1	585.8	583.6	580.4
20°	601.7	596.4	589.0	585.8	583.6	577.3	570.9	568.8	564.5	560.2	557.1
22.5°	573.0	567.7	560.2	557.1	556.0	550.7	545.4	542.1	539.0	535.7	532.6
25°	543.2	536.8	530.4	528.4	526.2	522.0	517.7	515.6	512.4	510.3	508.1
27.5°	511.4	505.0	499.7	496.5	494.3	491.2	489.0	486.9	484.8	482.6	481.6
30°	477.3	470.9	466.7	464.5	462.5	461.4	458.1	457.2	456.1	453.9	455.0
32.5°	443.3	438.0	433.8	430.5	430.5	428.4	427.4	427.4	426.3	426.3	426.3
35°	406.1	403.0	399.7	398.6	397.7	396.6	395.5	396.6	395.5	396.6	397.7
37.5°	372.1	368.9	366.8	365.7	364.6	365.7	364.6	364.6	365.7	367.9	368.9
40°	337.0	334.9	332.7	333.8	332.7	332.7	332.7	336.0	337.0	338.1	339.1
42.5°	304.0	302.0	300.9	300.9	302.0	300.9	302.9	304.0	306.2	309.3	311.5
45°	272.2	271.1	271.1	272.2	271.1	273.2	273.2	275.3	278.5	280.6	282.8
47.5°	242.3	242.3	242.3	243.4	243.4	244.5	246.7	247.7	249.8	252.0	254.1
50°	214.7	215.8	216.9	216.9	216.9	218.9	221.1	222.2	223.3	224.4	227.5
52.5°	190.3	191.4	191.4	192.4	193.5	194.5	195.6	197.7	198.8	200.9	202.0
55°	166.9	166.9	169.1	170.1	170.1	170.1	172.2	172.2	174.4	175.4	177.5
57.5°	144.6	145.7	145.7	146.6	146.6	147.7	148.8	149.9	151.0	152.1	153.0
60°	123.3	123.3	123.3	124.4	125.4	126.5	125.4	127.6	127.6	129.7	130.7
62.5°	103.1	104.2	104.2	104.2	104.2	104.2	104.2	105.2	106.3	107.4	108.4
65°	84.0	84.0	84.0	82.9	84.0	82.9	84.0	85.1	85.1	86.2	87.1
67.5°	64.8	64.8	62.8	62.8	63.7	63.7	63.7	63.7	62.8	64.8	64.8
70°	46.8	45.7	44.7	43.6	43.6	42.5	42.5	41.5	41.5	41.5	41.5
72.5°	30.8	28.7	26.6	25.5	24.5	24.5	22.3	21.2	22.3	22.3	22.3
75°	15.9	13.9	12.8	11.7	10.6	10.6	9.5	9.5	9.5	9.5	9.5
77.5°	6.4	5.3	4.2	4.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1
80°	2.2	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	1.1	0.0	0.0	1.1	0.0	1.1	1.1	1.1	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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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CATALOG NUMBER: HC815D010-HM80520830-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2
2.5°	697.3	697.3	696.4	697.3	695.3	696.4	695.3	695.3
5°	681.4	679.3	679.3	679.3	678.3	678.3	677.2	677.2
7.5°	662.3	661.3	660.2	659.1	658.1	657.0	657.0	657.0
10°	643.2	641.1	641.1	640.0	637.8	636.8	636.8	636.8
12.5°	620.8	619.7	618.8	618.8	614.4	615.5	614.4	614.4
15°	599.6	598.5	598.5	595.4	593.2	593.2	593.2	592.1
17.5°	577.3	576.2	575.1	573.0	570.9	570.9	569.8	570.9
20°	553.8	552.9	550.7	550.7	549.6	548.5	546.5	547.6
22.5°	530.4	528.4	527.3	527.3	526.2	526.2	524.1	524.1
25°	506.0	505.0	503.9	505.0	502.8	502.8	500.7	500.7
27.5°	480.6	479.5	479.5	479.5	478.4	479.5	478.4	478.4
30°	455.0	455.0	453.9	453.9	455.0	453.9	455.0	456.1
32.5°	427.4	427.4	428.4	428.4	429.5	429.5	429.5	429.5
35°	398.6	400.8	400.8	401.9	403.0	403.9	403.9	405.0
37.5°	372.1	373.2	374.2	375.2	377.4	377.4	377.4	377.4
40°	343.4	344.4	346.6	345.5	349.8	350.8	349.8	349.8
42.5°	313.7	315.7	316.8	319.0	320.0	322.1	323.2	323.2
45°	285.9	287.0	289.2	291.2	292.3	295.6	295.6	295.6
47.5°	257.3	259.4	260.4	262.6	263.7	266.8	267.9	266.8
50°	229.7	231.7	233.9	233.9	237.0	238.1	240.3	241.4
52.5°	203.0	204.1	206.3	207.3	209.4	211.6	212.6	213.6
55°	177.5	178.6	180.8	180.8	183.9	185.0	187.1	187.1
57.5°	154.1	155.2	157.4	156.3	158.5	160.5	160.5	159.4
60°	131.8	131.8	131.8	134.0	135.0	136.0	137.1	137.1
62.5°	108.4	110.6	111.6	111.6	112.7	113.8	113.8	112.7
65°	87.1	89.3	90.4	90.4	91.5	91.5	91.5	92.5
67.5°	65.9	65.9	65.9	67.0	65.9	65.9	65.9	65.9
70°	41.5	41.5	41.5	41.5	40.4	41.5	41.5	42.5
72.5°	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
75°	9.5	9.5	9.5	10.6	9.5	9.5	9.5	9.5
77.5°	4.2	3.1	4.2	4.2	3.1	3.1	3.1	3.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
85°	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)