

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: P583863

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583863
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC815D010-HM80520830-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1446.0 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

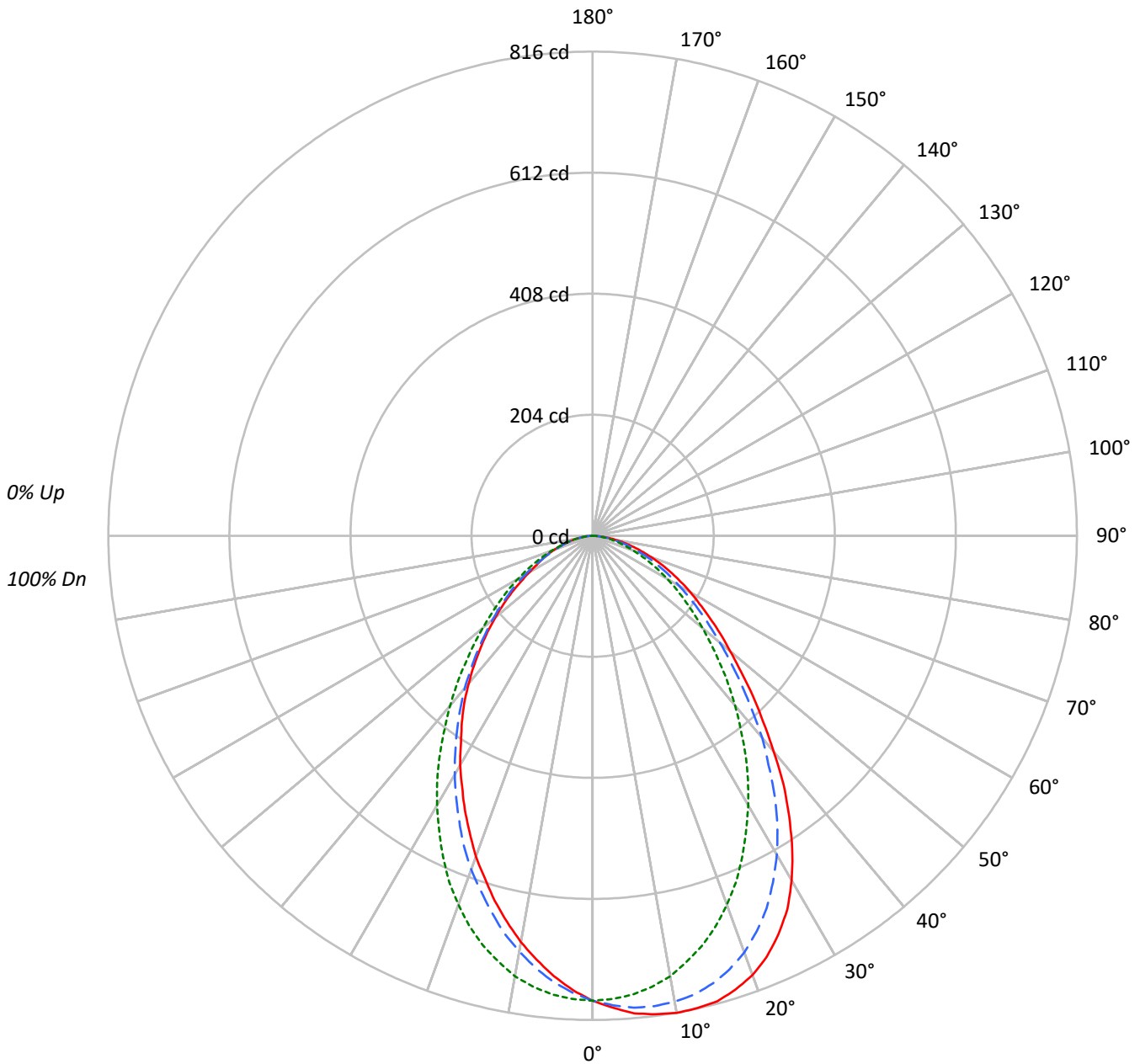
Input Watts (W): 14
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	100								
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87								
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76								
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51								
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	24160	24160	24160
5°	25011	24020	23067
10°	25566	23600	21771
15°	25929	22807	20329
20°	25849	21697	18872
25°	25212	20292	17325
30°	23885	18661	15898
35°	21732	16887	14448
40°	19088	15023	13054
45°	16641	13209	11635
50°	14488	11581	10247
55°	12919	10172	8914
60°	11736	8918	7604
65°	10551	7756	6902
70°	9395	6618	6221
75°	8221	5576	5326
80°	6979	4528	4724
85°	5272	3361	3750



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.4	5.1
10°-20°	202.2	14.0
20°-30°	280.7	19.4
30°-40°	290.2	20.1
40°-50°	243.0	16.8
50°-60°	176.4	12.2
60°-70°	111.3	7.7
70°-80°	55.1	3.8
80°-90°	13.7	0.9
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°	556.3	38.5
0°-40°	846.5	58.5
0°-60°	1265.8	87.5
0°-90°	1446.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1446.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	784	784	784	784	784	
5°	808	798	776	755	745	77
15°	812	781	714	657	637	229
25°	741	693	596	532	509	340
35°	577	535	449	398	384	359
45°	382	354	303	273	267	295
55°	240	219	189	173	166	217
65°	145	126	106	94	95	144
75°	69	57	47	45	45	74
85°	15	12	10	11	11	18
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°	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5
2.5°	796.3	796.3	797.3	796.3	796.3	796.3	795.2	795.2	794.1	794.1	792.0
5°	808.0	805.8	808.0	805.8	805.8	805.8	804.7	802.7	801.6	799.4	798.4
7.5°	813.3	812.2	812.2	811.1	811.1	810.1	809.0	808.0	803.7	802.7	799.4
10°	816.5	815.4	815.4	814.3	812.2	812.2	810.1	809.0	803.7	801.6	797.3
12.5°	815.4	815.4	815.4	814.3	811.1	810.1	808.0	804.7	800.5	796.3	792.0
15°	812.2	812.2	810.1	809.0	805.8	803.7	802.7	797.3	793.0	787.7	781.3
17.5°	801.6	801.6	800.5	798.4	795.2	793.0	791.0	785.7	781.3	772.9	766.5
20°	787.7	786.7	785.7	782.4	779.3	778.2	774.9	767.6	762.3	755.9	747.3
22.5°	767.6	766.5	765.4	763.2	757.9	755.9	753.7	748.4	738.8	732.5	721.8
25°	741.0	741.0	738.8	735.7	730.4	728.2	725.0	719.7	711.2	701.7	693.1
27.5°	710.1	709.0	705.9	703.7	699.5	696.4	690.9	684.7	676.1	668.7	658.1
30°	670.8	670.8	668.7	665.5	660.2	658.1	653.8	646.4	637.8	628.3	620.8
32.5°	626.1	626.1	623.0	620.8	617.7	612.4	611.3	602.7	595.3	587.9	579.4
35°	577.3	578.3	576.2	571.9	566.6	566.6	564.5	557.1	548.5	541.2	534.8
37.5°	528.4	525.1	524.1	522.0	518.8	514.5	512.4	509.2	501.8	496.5	486.9
40°	474.2	475.3	473.1	470.9	469.8	466.7	465.6	460.3	455.0	448.6	444.4
42.5°	425.2	425.2	425.2	423.1	421.0	417.8	416.7	413.6	407.2	403.0	396.6
45°	381.6	378.5	378.5	377.4	376.3	374.2	371.0	368.9	364.6	361.5	354.0
47.5°	339.1	340.2	339.1	338.0	334.9	333.8	332.7	328.5	324.3	321.0	315.7
50°	302.0	304.0	302.0	302.0	299.8	298.7	296.6	293.4	290.2	284.9	279.6
52.5°	271.1	271.1	270.0	269.0	265.8	263.7	262.6	261.5	256.2	252.0	247.7
55°	240.3	241.4	241.4	238.1	237.0	235.0	233.9	230.6	228.6	222.2	218.9
57.5°	213.6	212.6	213.6	211.6	209.4	207.3	206.3	204.1	200.9	196.7	192.4
60°	190.3	188.2	188.2	187.1	185.0	183.9	181.8	178.6	175.4	171.1	168.0
62.5°	166.9	165.8	164.7	163.8	161.6	160.5	159.4	156.3	153.0	149.9	146.6
65°	144.6	144.6	143.5	141.3	140.4	139.3	138.2	136.0	131.8	129.7	126.5
67.5°	124.4	123.3	123.3	121.2	119.1	118.0	118.0	115.9	112.7	109.5	107.4
70°	104.2	105.2	104.2	103.1	101.0	101.0	98.8	97.8	93.5	92.5	89.3
72.5°	86.2	86.2	85.1	85.1	82.9	81.8	81.8	79.8	77.6	75.4	73.4
75°	69.0	69.0	69.0	68.1	67.0	64.8	64.8	63.7	61.7	59.5	57.4
77.5°	54.2	53.1	53.1	52.1	51.0	50.0	50.0	48.9	46.8	45.7	43.6
80°	39.3	38.3	38.3	38.3	36.2	37.2	36.2	35.1	34.0	32.9	31.9
82.5°	25.5	26.6	26.6	25.5	24.5	24.5	24.5	23.4	23.4	22.3	21.2
85°	14.9	14.9	14.9	14.9	13.9	13.9	13.9	12.8	12.8	12.8	11.7
87.5°	6.4	6.4	6.4	6.4	6.4	6.4	5.3	5.3	5.3	5.3	5.3
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5
2.5°	792.0	789.9	788.8	787.7	787.7	786.7	785.7	783.5	783.5	781.3	780.4
5°	796.3	793.0	791.0	788.8	787.7	785.7	783.5	780.4	779.3	776.0	772.9
7.5°	797.3	792.0	789.9	785.7	783.5	781.3	777.1	774.0	769.6	766.5	762.3
10°	793.0	788.8	783.5	778.2	777.1	774.0	767.6	763.2	757.9	753.7	747.3
12.5°	786.7	780.4	774.9	768.7	765.4	762.3	755.9	749.5	742.0	734.6	728.2
15°	776.0	768.7	761.2	753.7	749.5	746.3	738.8	731.4	724.0	714.4	708.1
17.5°	760.1	751.6	744.2	734.6	730.4	727.1	717.6	709.0	699.5	690.0	683.6
20°	739.9	729.3	720.8	710.1	707.0	701.7	692.0	682.5	671.9	661.2	653.8
22.5°	713.4	702.8	693.1	682.5	677.2	671.9	662.3	650.6	640.0	631.4	624.1
25°	682.5	673.0	661.2	651.7	645.3	638.9	628.3	618.8	609.1	596.4	589.0
27.5°	648.5	636.8	628.3	615.5	609.1	604.9	593.2	580.4	571.9	560.2	551.8
30°	610.2	599.6	590.0	577.3	570.9	566.6	556.0	544.3	535.7	524.1	515.6
32.5°	569.8	558.2	546.5	537.9	530.4	526.2	514.5	507.1	496.5	486.9	477.3
35°	526.2	514.5	506.0	494.3	490.1	485.9	476.2	466.7	457.2	448.6	441.2
37.5°	479.5	470.9	461.4	452.8	449.7	445.5	433.7	425.2	417.8	409.3	403.0
40°	433.7	426.3	419.9	411.4	406.1	403.0	394.4	386.9	378.5	373.2	366.8
42.5°	392.2	383.8	377.4	371.0	365.7	362.5	355.1	349.8	343.4	338.0	330.7
45°	348.7	344.4	337.0	331.7	328.5	324.3	319.0	312.6	307.3	302.9	297.6
47.5°	310.4	306.2	300.9	294.5	292.3	289.2	283.9	279.6	275.3	271.1	265.8
50°	275.3	270.0	265.8	261.5	259.4	256.2	250.9	248.7	245.6	241.4	238.1
52.5°	243.4	239.2	235.0	229.7	228.6	226.4	223.3	218.9	215.8	213.6	211.6
55°	214.7	210.5	207.3	203.0	202.0	199.9	195.6	193.5	191.4	189.2	187.1
57.5°	189.2	185.0	180.8	178.6	176.5	174.4	173.3	170.1	168.0	166.9	164.7
60°	165.8	161.6	158.5	155.2	154.1	153.0	151.0	148.8	146.6	144.6	143.5
62.5°	143.5	139.3	137.1	135.0	132.9	132.9	130.7	128.6	126.5	125.4	123.3
65°	123.3	121.2	118.0	114.8	113.8	113.8	110.6	109.5	108.4	106.3	104.2
67.5°	104.2	102.1	98.8	97.8	96.8	95.7	94.6	92.5	90.4	89.3	87.1
70°	87.1	85.1	82.9	81.8	80.7	79.8	77.6	76.5	74.5	73.4	72.3
72.5°	70.1	69.0	67.0	65.9	64.8	63.7	62.8	61.7	59.5	58.4	57.4
75°	56.4	55.3	53.1	52.1	51.0	51.0	50.0	47.8	46.8	46.8	45.7
77.5°	42.5	41.5	40.4	39.3	38.3	38.3	37.2	36.2	35.1	35.1	34.0
80°	30.8	29.8	28.7	28.7	28.7	27.6	26.6	26.6	25.5	25.5	24.5
82.5°	20.2	20.2	19.2	19.2	19.2	18.1	18.1	17.0	17.0	17.0	17.0
85°	11.7	11.7	11.7	10.6	10.6	10.6	10.6	10.6	10.6	9.5	10.6
87.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.2	4.2	4.2
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5
2.5°	779.3	778.2	776.0	776.0	774.0	774.0	772.9	771.8	770.7	769.6	768.7
5°	771.8	767.6	765.4	764.3	762.3	761.2	757.9	755.9	754.8	752.6	750.6
7.5°	757.9	753.7	749.5	748.4	747.3	743.1	739.9	736.7	734.6	732.5	730.4
10°	742.0	737.8	732.5	730.4	728.2	722.9	718.7	715.4	711.2	707.0	705.9
12.5°	722.9	716.5	710.1	708.1	704.8	699.5	695.3	690.0	686.7	681.4	680.3
15°	700.6	693.1	687.8	682.5	680.3	675.0	667.6	663.4	657.0	654.9	649.5
17.5°	674.0	666.6	659.1	657.0	653.8	646.4	638.9	633.6	627.2	624.1	620.8
20°	646.4	636.8	629.4	627.2	623.0	616.6	609.1	603.8	598.5	592.1	589.0
22.5°	614.4	603.8	597.4	592.1	591.1	583.6	575.1	570.9	566.6	561.3	557.1
25°	579.4	569.8	562.4	558.2	556.0	549.6	543.2	537.9	531.5	528.4	523.1
27.5°	543.2	536.8	527.3	523.1	519.8	514.5	507.1	503.9	497.5	493.3	490.1
30°	508.1	498.6	493.3	487.9	484.8	479.5	473.1	469.8	464.5	460.3	457.2
32.5°	469.8	463.6	456.1	453.9	449.7	444.4	440.1	434.8	430.5	426.3	425.2
35°	434.8	426.3	418.9	416.7	413.6	408.3	406.1	403.0	397.7	396.6	392.2
37.5°	396.6	392.2	383.8	380.5	379.6	375.2	371.0	368.9	365.7	362.5	361.5
40°	360.4	355.1	350.8	347.6	345.5	342.3	338.0	337.0	334.9	330.7	329.6
42.5°	326.3	321.0	316.8	315.7	312.6	309.3	307.3	304.0	302.9	302.0	299.8
45°	293.4	290.2	285.9	284.9	283.9	279.6	277.5	275.3	273.2	272.2	270.0
47.5°	263.7	260.4	257.3	256.2	254.1	253.0	249.8	248.7	245.6	244.5	243.4
50°	235.0	232.8	230.6	229.7	227.5	226.4	224.4	222.2	220.0	218.9	218.0
52.5°	209.4	207.3	205.2	204.1	203.0	200.9	198.8	196.7	195.6	194.5	193.5
55°	185.0	182.8	181.8	180.8	179.7	178.6	175.4	174.4	173.3	172.2	170.1
57.5°	162.7	160.5	158.5	158.5	157.4	156.3	154.1	152.1	152.1	149.9	147.7
60°	142.4	140.4	138.2	137.1	136.0	134.0	132.9	131.8	130.7	129.7	127.6
62.5°	121.2	120.1	118.0	118.0	115.9	114.8	113.8	112.7	111.6	109.5	108.4
65°	103.1	102.1	99.9	98.8	98.8	97.8	95.7	94.6	93.5	93.5	92.5
67.5°	86.2	85.1	82.9	81.8	81.8	80.7	79.8	79.8	78.7	77.6	78.7
70°	71.2	69.0	69.0	68.1	68.1	67.0	65.9	65.9	65.9	67.0	67.0
72.5°	56.4	55.3	54.2	54.2	54.2	54.2	53.1	53.1	54.2	55.3	55.3
75°	44.7	43.6	43.6	43.6	42.5	42.5	43.6	43.6	44.7	44.7	44.7
77.5°	32.9	32.9	32.9	32.9	32.9	32.9	34.0	34.0	35.1	35.1	35.1
80°	24.5	24.5	24.5	24.5	24.5	25.5	25.5	25.5	25.5	25.5	26.6
82.5°	17.0	17.0	17.0	17.0	17.0	17.0	17.0	18.1	18.1	18.1	18.1
85°	9.5	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
87.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
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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CATALOG NUMBER: HC815D010-HM80520830-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	783.5	783.5	783.5	783.5	783.5	783.5	783.5	783.5
2.5°	767.6	767.6	767.6	768.7	766.5	766.5	766.5	766.5
5°	749.5	748.4	747.3	748.4	746.3	746.3	745.2	745.2
7.5°	727.1	726.1	725.0	725.0	722.9	722.9	721.8	720.8
10°	702.8	700.6	701.7	699.5	698.4	697.3	696.4	695.3
12.5°	676.1	674.0	673.0	670.8	668.7	667.6	668.7	666.6
15°	647.4	644.2	643.1	641.1	638.9	637.8	637.8	636.8
17.5°	615.5	613.3	612.4	610.2	609.1	607.1	606.0	604.9
20°	585.8	580.4	581.5	579.4	578.3	574.1	574.1	575.1
22.5°	552.9	549.6	547.4	545.4	544.3	542.1	542.1	541.2
25°	519.8	516.7	515.6	513.5	512.4	510.3	509.2	509.2
27.5°	487.9	483.7	483.7	481.6	479.5	478.4	477.3	476.2
30°	453.9	450.8	449.7	449.7	448.6	448.6	445.5	446.5
32.5°	422.0	419.9	418.9	416.7	416.7	415.7	415.7	412.5
35°	390.2	386.9	388.0	385.8	384.9	383.8	384.9	383.8
37.5°	359.3	357.2	357.2	355.1	355.1	354.0	352.9	355.1
40°	328.5	327.4	326.3	325.4	326.3	325.4	323.2	324.3
42.5°	297.6	297.6	296.6	296.6	295.6	295.6	295.6	295.6
45°	270.0	269.0	269.0	267.9	267.9	267.9	267.9	266.8
47.5°	242.3	241.4	241.4	241.4	240.3	240.3	239.2	240.3
50°	215.8	215.8	214.7	214.7	215.8	214.7	213.6	213.6
52.5°	191.4	191.4	190.3	190.3	189.2	188.2	189.2	189.2
55°	169.1	168.0	166.9	166.9	165.8	164.7	164.7	165.8
57.5°	147.7	146.6	145.7	145.7	143.5	142.4	142.4	142.4
60°	127.6	125.4	125.4	124.4	124.4	123.3	123.3	123.3
62.5°	108.4	107.4	107.4	107.4	107.4	106.3	106.3	106.3
65°	92.5	92.5	92.5	93.5	93.5	94.6	94.6	94.6
67.5°	79.8	80.7	80.7	80.7	81.8	81.8	81.8	80.7
70°	68.1	68.1	68.1	69.0	69.0	69.0	69.0	69.0
72.5°	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4
75°	44.7	45.7	45.7	45.7	44.7	45.7	45.7	44.7
77.5°	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1
80°	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6
82.5°	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1
85°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
87.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
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)