

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: P583846

Luminaire Tested: **HC815D010-HM80520827-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583846
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-HM80520827-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1453.9 lumens
Efficiency: N/A
Efficacy: 103.8 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

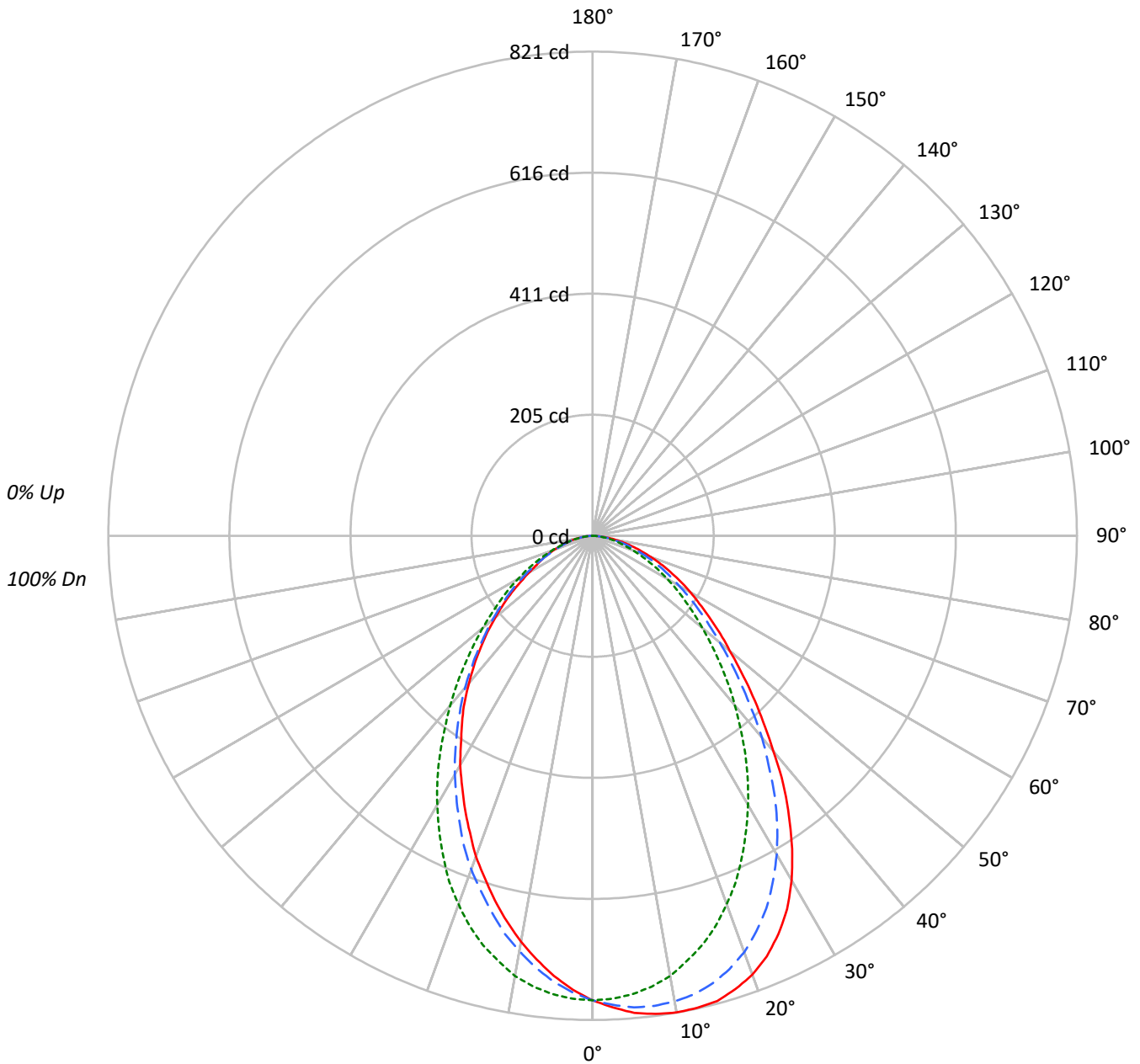
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	24290	24290	24290
5°	25144	24150	23194
10°	25701	23728	21887
15°	26069	22931	20438
20°	25990	21816	18977
25°	25351	20401	17420
30°	24013	18761	15987
35°	21849	16978	14523
40°	19189	15103	13123
45°	16733	13283	11696
50°	14560	11643	10309
55°	12989	10231	8967
60°	11804	8961	7647
65°	10602	7800	6939
70°	9440	6645	6266
75°	8280	5600	5349
80°	7014	4564	4759
85°	5272	3397	3786



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.8	5.1
10°-20°	203.3	14.0
20°-30°	282.2	19.4
30°-40°	291.8	20.1
40°-50°	244.3	16.8
50°-60°	177.4	12.2
60°-70°	111.9	7.7
70°-80°	55.4	3.8
80°-90°	13.8	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°	559.3	38.5
0°-40°	851.1	58.5
0°-60°	1272.7	87.5
0°-90°	1453.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1453.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	788	788	788	788	788	
5°	812	803	780	759	749	78
15°	817	786	718	661	640	230
25°	745	697	600	534	512	341
35°	580	538	451	400	386	361
45°	384	356	305	275	268	297
55°	242	220	190	174	167	218
65°	145	127	107	94	95	145
75°	70	58	47	45	45	75
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°	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7
2.5°	800.6	800.6	801.7	800.6	800.6	800.6	799.5	799.5	798.4	798.4	796.3
5°	812.3	810.2	812.3	810.2	810.2	810.2	809.2	807.0	805.9	803.9	802.8
7.5°	817.7	816.6	816.6	815.5	815.5	814.5	813.4	812.3	808.1	807.0	803.9
10°	820.8	819.9	819.9	818.8	816.6	816.6	814.5	813.4	808.1	805.9	801.7
12.5°	819.9	819.9	819.9	818.8	815.5	814.5	812.3	809.2	804.8	800.6	796.3
15°	816.6	816.6	814.5	813.4	810.2	808.1	807.0	801.7	797.3	792.0	785.7
17.5°	805.9	805.9	804.8	802.8	799.5	797.3	795.3	789.9	785.7	777.1	770.7
20°	792.0	791.0	789.9	786.7	783.5	782.4	779.3	771.7	766.4	760.0	751.4
22.5°	771.7	770.7	769.6	767.5	762.2	760.0	757.8	752.5	742.9	736.5	725.8
25°	745.1	745.1	742.9	739.6	734.3	732.2	729.0	723.6	715.0	705.4	696.9
27.5°	714.0	713.0	709.7	707.6	703.4	700.1	694.8	688.4	679.9	672.3	661.7
30°	674.4	674.4	672.3	669.1	663.8	661.7	657.3	649.9	641.3	631.7	624.2
32.5°	629.6	629.6	626.4	624.2	621.1	615.6	614.6	606.1	598.5	591.1	582.5
35°	580.4	581.4	579.4	575.0	569.7	569.7	567.6	560.1	551.5	544.1	537.7
37.5°	531.3	528.0	526.9	524.8	521.6	517.3	515.3	512.0	504.5	499.1	489.6
40°	476.7	477.8	475.6	473.6	472.5	469.2	468.1	462.8	457.5	451.0	446.8
42.5°	427.5	427.5	427.5	425.4	423.3	420.1	419.0	415.8	409.3	405.1	398.7
45°	383.7	380.5	380.5	379.5	378.4	376.2	373.1	370.9	366.7	363.4	356.0
47.5°	341.0	342.1	341.0	339.9	336.7	335.6	334.5	330.3	326.0	322.8	317.5
50°	303.5	305.7	303.5	303.5	301.4	300.4	298.2	295.0	291.9	286.4	281.1
52.5°	272.6	272.6	271.5	270.4	267.3	265.1	264.0	262.9	257.6	253.3	249.1
55°	241.6	242.7	242.7	239.4	238.3	236.2	235.1	232.0	229.8	223.4	220.2
57.5°	214.9	213.8	214.9	212.7	210.5	208.5	207.4	205.2	202.1	197.7	193.5
60°	191.4	189.2	189.2	188.1	185.9	185.0	182.8	179.5	176.4	172.1	168.9
62.5°	167.9	166.8	165.7	164.6	162.4	161.3	160.4	157.1	153.9	150.7	147.5
65°	145.3	145.3	144.4	142.2	141.1	140.0	138.9	136.8	132.6	130.4	127.2
67.5°	125.1	124.0	124.0	121.8	119.7	118.7	118.7	116.5	113.3	110.1	108.0
70°	104.7	105.8	104.7	103.6	101.6	101.6	99.4	98.3	94.1	93.0	89.8
72.5°	86.6	86.6	85.6	85.6	83.4	82.3	82.3	80.1	78.1	75.9	73.7
75°	69.5	69.5	69.5	68.4	67.4	65.2	65.2	64.1	61.9	59.9	57.7
77.5°	54.5	53.5	53.5	52.4	51.3	50.2	50.2	49.2	47.0	45.9	43.9
80°	39.5	38.4	38.4	38.4	36.4	37.4	36.4	35.3	34.2	33.1	32.1
82.5°	25.7	26.8	26.8	25.7	24.6	24.6	24.6	23.5	23.5	22.4	21.3
85°	14.9	14.9	14.9	14.9	13.9	13.9	13.9	12.8	12.8	12.8	11.8
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°	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7
2.5°	796.3	794.2	793.1	792.0	792.0	791.0	789.9	787.7	787.7	785.7	784.6
5°	800.6	797.3	795.3	793.1	792.0	789.9	787.7	784.6	783.5	780.2	777.1
7.5°	801.7	796.3	794.2	789.9	787.7	785.7	781.3	778.2	773.9	770.7	766.4
10°	797.3	793.1	787.7	782.4	781.3	778.2	771.7	767.5	762.2	757.8	751.4
12.5°	791.0	784.6	779.3	772.8	769.6	766.4	760.0	753.6	746.1	738.5	732.2
15°	780.2	772.8	765.3	757.8	753.6	750.4	742.9	735.4	727.9	718.3	711.9
17.5°	764.2	755.7	748.2	738.5	734.3	731.1	721.6	713.0	703.4	693.7	687.3
20°	744.0	733.2	724.7	714.0	710.8	705.4	695.9	686.2	675.5	664.8	657.3
22.5°	717.2	706.5	696.9	686.2	680.8	675.5	665.9	654.2	643.5	634.9	627.4
25°	686.2	676.6	664.8	655.3	648.8	642.4	631.7	622.1	612.5	599.6	592.1
27.5°	652.0	640.2	631.7	618.9	612.5	608.2	596.5	583.6	575.0	563.3	554.8
30°	613.6	602.9	593.2	580.4	573.9	569.7	559.0	547.3	538.8	526.9	518.4
32.5°	573.0	561.2	549.4	540.8	533.3	529.1	517.3	509.8	499.1	489.6	480.0
35°	529.1	517.3	508.8	497.1	492.7	488.5	478.9	469.2	459.6	451.0	443.6
37.5°	482.1	473.6	463.9	455.4	452.1	447.9	436.1	427.5	420.1	411.5	405.1
40°	436.1	428.6	422.2	413.7	408.3	405.1	396.6	389.1	380.5	375.2	368.7
42.5°	394.4	385.8	379.5	373.1	367.6	364.5	357.0	351.6	345.2	339.9	332.5
45°	350.5	346.3	338.8	333.5	330.3	326.0	320.7	314.3	309.0	304.6	299.3
47.5°	312.1	307.9	302.5	296.1	293.9	290.8	285.3	281.1	276.8	272.6	267.3
50°	276.8	271.5	267.3	262.9	260.8	257.6	252.2	250.2	246.9	242.7	239.4
52.5°	244.7	240.5	236.2	230.9	229.8	227.6	224.5	220.2	217.0	214.9	212.7
55°	215.9	211.6	208.5	204.1	203.0	201.0	196.7	194.5	192.4	190.3	188.1
57.5°	190.3	185.9	181.7	179.5	177.4	175.3	174.2	171.0	168.9	167.9	165.7
60°	166.8	162.4	159.3	156.0	155.0	153.9	151.8	149.7	147.5	145.3	144.4
62.5°	144.4	140.0	137.9	135.8	133.6	133.6	131.5	129.3	127.2	126.2	124.0
65°	124.0	121.8	118.7	115.4	114.4	114.4	111.2	110.1	109.1	106.9	104.7
67.5°	104.7	102.7	99.4	98.3	97.2	96.2	95.1	93.0	90.9	89.8	87.6
70°	87.6	85.6	83.4	82.3	81.2	80.1	78.1	77.0	74.8	73.7	72.7
72.5°	70.5	69.5	67.4	66.3	65.2	64.1	63.0	61.9	59.9	58.8	57.7
75°	56.6	55.6	53.5	52.4	51.3	51.3	50.2	48.1	47.0	47.0	45.9
77.5°	42.8	41.7	40.6	39.5	38.4	38.4	37.4	36.4	35.3	35.3	34.2
80°	31.0	29.9	28.9	28.9	28.9	27.8	26.8	26.8	25.7	25.7	24.6
82.5°	20.4	20.4	19.3	19.3	19.3	18.2	18.2	17.1	17.1	17.1	17.1
85°	11.8	11.8	11.8	10.7	10.7	10.7	10.7	10.7	10.7	9.6	10.7
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°	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7
2.5°	783.5	782.4	780.2	780.2	778.2	778.2	777.1	776.0	774.9	773.9	772.8
5°	776.0	771.7	769.6	768.5	766.4	765.3	762.2	760.0	758.9	756.7	754.6
7.5°	762.2	757.8	753.6	752.5	751.4	747.1	744.0	740.7	738.5	736.5	734.3
10°	746.1	741.8	736.5	734.3	732.2	726.9	722.5	719.4	715.0	710.8	709.7
12.5°	726.9	720.5	714.0	711.9	708.7	703.4	699.0	693.7	690.5	685.2	684.1
15°	704.4	696.9	691.5	686.2	684.1	678.8	671.3	667.0	660.6	658.4	653.1
17.5°	677.7	670.2	662.8	660.6	657.3	649.9	642.4	637.1	630.7	627.4	624.2
20°	649.9	640.2	632.7	630.7	626.4	620.0	612.5	607.1	601.8	595.4	592.1
22.5°	617.8	607.1	600.7	595.4	594.3	586.8	578.3	573.9	569.7	564.4	560.1
25°	582.5	573.0	565.4	561.2	559.0	552.6	546.2	540.8	534.4	531.3	525.9
27.5°	546.2	539.8	530.2	525.9	522.7	517.3	509.8	506.7	500.2	496.0	492.7
30°	510.9	501.3	496.0	490.7	487.4	482.1	475.6	472.5	467.1	462.8	459.6
32.5°	472.5	466.0	458.5	456.5	452.1	446.8	442.5	437.2	433.0	428.6	427.5
35°	437.2	428.6	421.1	419.0	415.8	410.4	408.3	405.1	399.8	398.7	394.4
37.5°	398.7	394.4	385.8	382.7	381.6	377.3	373.1	370.9	367.6	364.5	363.4
40°	362.3	357.0	352.7	349.6	347.4	344.1	339.9	338.8	336.7	332.5	331.4
42.5°	328.1	322.8	318.5	317.5	314.3	311.0	309.0	305.7	304.6	303.5	301.4
45°	295.0	291.9	287.5	286.4	285.3	281.1	279.0	276.8	274.7	273.7	271.5
47.5°	265.1	261.8	258.7	257.6	255.5	254.4	251.2	250.2	246.9	245.8	244.7
50°	236.2	234.1	232.0	230.9	228.7	227.6	225.6	223.4	221.2	220.2	219.1
52.5°	210.5	208.5	206.3	205.2	204.1	202.1	199.9	197.7	196.7	195.6	194.5
55°	185.9	183.9	182.8	181.7	180.6	179.5	176.4	175.3	174.2	173.2	171.0
57.5°	163.5	161.3	159.3	159.3	158.2	157.1	155.0	152.8	152.8	150.7	148.6
60°	143.3	141.1	138.9	137.9	136.8	134.7	133.6	132.6	131.5	130.4	128.2
62.5°	121.8	120.7	118.7	118.7	116.5	115.4	114.4	113.3	112.2	110.1	109.1
65°	103.6	102.7	100.5	99.4	99.4	98.3	96.2	95.1	94.1	94.1	93.0
67.5°	86.6	85.6	83.4	82.3	82.3	81.2	80.1	80.1	79.0	78.1	79.0
70°	71.6	69.5	69.5	68.4	68.4	67.4	66.3	66.3	66.3	67.4	67.4
72.5°	56.6	55.6	54.5	54.5	54.5	54.5	53.5	53.5	54.5	55.6	55.6
75°	44.9	43.9	43.9	43.9	42.8	42.8	43.9	43.9	44.9	44.9	44.9
77.5°	33.1	33.1	33.1	33.1	33.1	33.1	34.2	34.2	35.3	35.3	35.3
80°	24.6	24.6	24.6	24.6	24.6	25.7	25.7	25.7	25.7	25.7	26.8
82.5°	17.1	17.1	17.1	17.1	17.1	17.1	17.1	18.2	18.2	18.2	18.2
85°	9.6	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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



TEST NUMBER: P583846

CATALOG NUMBER: HC815D010-HM80520827-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	787.7	787.7	787.7	787.7	787.7	787.7	787.7	787.7
2.5°	771.7	771.7	771.7	772.8	770.7	770.7	770.7	770.7
5°	753.6	752.5	751.4	752.5	750.4	750.4	749.3	749.3
7.5°	731.1	730.0	729.0	729.0	726.9	726.9	725.8	724.7
10°	706.5	704.4	705.4	703.4	702.3	701.2	700.1	699.0
12.5°	679.9	677.7	676.6	674.4	672.3	671.3	672.3	670.2
15°	650.9	647.7	646.7	644.6	642.4	641.3	641.3	640.2
17.5°	618.9	616.7	615.6	613.6	612.5	610.3	609.2	608.2
20°	589.0	583.6	584.7	582.5	581.4	577.2	577.2	578.3
22.5°	555.9	552.6	550.4	548.4	547.3	545.1	545.1	544.1
25°	522.7	519.5	518.4	516.2	515.3	513.1	512.0	512.0
27.5°	490.7	486.3	486.3	484.2	482.1	481.0	480.0	478.9
30°	456.5	453.2	452.1	452.1	451.0	451.0	447.9	449.0
32.5°	424.4	422.2	421.1	419.0	419.0	417.9	417.9	414.8
35°	392.2	389.1	390.2	388.0	386.9	385.8	386.9	385.8
37.5°	361.3	359.1	359.1	357.0	357.0	356.0	354.9	357.0
40°	330.3	329.2	328.1	327.0	328.1	327.0	325.0	326.0
42.5°	299.3	299.3	298.2	298.2	297.2	297.2	297.2	297.2
45°	271.5	270.4	270.4	269.3	269.3	269.3	269.3	268.2
47.5°	243.7	242.7	242.7	242.7	241.6	241.6	240.5	241.6
50°	217.0	217.0	215.9	215.9	217.0	215.9	214.9	214.9
52.5°	192.4	192.4	191.4	191.4	190.3	189.2	190.3	190.3
55°	169.9	168.9	167.9	167.9	166.8	165.7	165.7	166.8
57.5°	148.6	147.5	146.4	146.4	144.4	143.3	143.3	143.3
60°	128.2	126.2	126.2	125.1	125.1	124.0	124.0	124.0
62.5°	109.1	108.0	108.0	108.0	108.0	106.9	106.9	106.9
65°	93.0	93.0	93.0	94.1	94.1	95.1	95.1	95.1
67.5°	80.1	81.2	81.2	81.2	82.3	82.3	82.3	81.2
70°	68.4	68.4	68.4	69.5	69.5	69.5	69.5	69.5
72.5°	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.6
75°	44.9	45.9	45.9	45.9	44.9	45.9	45.9	44.9
77.5°	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3
80°	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8
82.5°	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
85°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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)