

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: P583949

Luminaire Tested: **HC815D010-HM80520935-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583949
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-HM80520935-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1437.4 lumens
Efficiency: N/A
Efficacy: 102.7 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

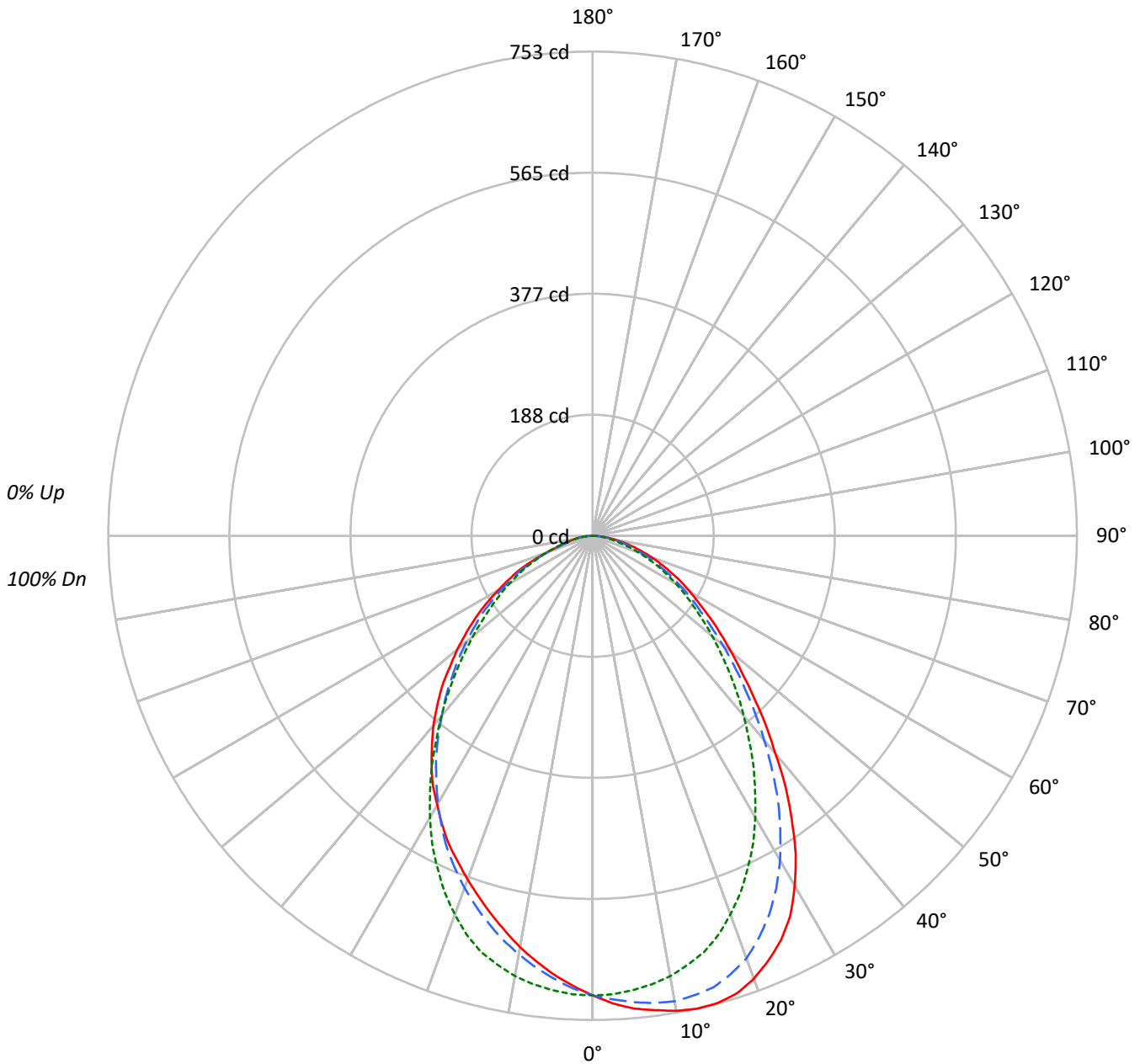
Input Watts (W): 14
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	22039	22039	22039
5°	22847	21965	21213
10°	23490	21774	20343
15°	24017	21389	19445
20°	24054	20556	18656
25°	23592	19414	17995
30°	22375	18003	17205
35°	20332	16394	16435
40°	17776	14713	15490
45°	15407	13105	14430
50°	13490	11643	13149
55°	12005	10311	11903
60°	10830	9269	10454
65°	9777	8150	9106
70°	8791	6870	6771
75°	7732	5445	5087
80°	6482	4511	4866
85°	5024	3963	4316



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	4.7
10°-20°	189.9	13.2
20°-30°	271.4	18.9
30°-40°	288.4	20.1
40°-50°	248.3	17.3
50°-60°	185.6	12.9
60°-70°	118.4	8.2
70°-80°	53.9	3.7
80°-90°	14.2	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°	528.7	36.8
0°-40°	817.1	56.8
0°-60°	1251.0	87.0
0°-90°	1437.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1437.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	715	715	715	715	715	
5°	738	728	710	691	685	71
15°	752	727	670	624	609	212
25°	693	650	571	536	529	317
35°	540	502	436	424	437	336
45°	353	334	300	309	331	275
55°	223	205	192	208	221	201
65°	134	119	112	117	125	134
75°	65	56	46	42	43	69
85°	14	12	11	12	12	17
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°	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7
2.5°	727.9	725.9	726.9	725.9	726.9	726.9	724.8	724.8	724.8	724.8	721.8
5°	738.1	737.0	737.0	736.0	735.1	736.0	735.1	734.0	731.9	731.0	727.9
7.5°	744.1	744.1	744.1	744.1	743.1	742.0	741.1	739.0	737.0	735.1	733.0
10°	750.2	751.2	750.2	749.1	748.2	746.1	745.2	743.1	740.1	737.0	735.1
12.5°	753.2	753.2	752.3	752.3	750.2	749.1	746.1	743.1	740.1	737.0	731.9
15°	752.3	752.3	751.2	750.2	747.2	746.1	744.1	741.1	736.0	731.9	726.9
17.5°	746.1	745.2	743.1	743.1	739.0	738.1	736.0	731.9	726.9	720.8	714.7
20°	733.0	733.0	731.9	731.0	726.9	723.8	721.8	716.7	712.6	705.5	699.5
22.5°	714.7	716.7	714.7	712.6	707.6	706.6	703.5	697.5	691.3	683.2	676.1
25°	693.4	692.4	691.3	689.3	685.3	683.2	679.1	673.1	667.0	657.8	649.7
27.5°	666.0	661.9	661.9	657.8	654.8	651.8	649.7	643.6	635.5	628.4	618.3
30°	628.4	629.4	624.3	623.3	618.3	616.2	612.1	606.1	599.0	590.8	582.7
32.5°	587.8	584.8	584.8	580.7	576.6	573.6	572.6	565.5	559.4	551.3	543.1
35°	540.1	540.1	537.1	536.0	532.0	530.0	526.8	522.8	515.7	508.6	502.5
37.5°	493.3	491.4	490.3	488.3	485.3	482.2	482.2	475.1	474.0	466.0	457.9
40°	441.6	443.7	441.6	438.5	437.5	435.5	434.5	430.4	427.4	420.3	415.2
42.5°	398.0	396.0	396.0	394.9	390.9	390.9	388.9	386.8	381.7	379.7	373.6
45°	353.3	355.4	352.2	353.3	349.2	349.2	349.2	345.1	341.1	338.0	334.0
47.5°	314.7	315.7	315.7	312.7	311.6	311.6	309.7	307.6	304.5	300.5	297.4
50°	281.2	282.2	280.2	279.2	277.2	276.2	276.2	272.1	270.0	265.9	263.9
52.5°	250.8	250.8	249.7	249.7	246.7	246.7	244.6	241.6	239.6	237.5	232.4
55°	223.3	223.3	222.3	221.4	221.4	218.2	217.3	214.2	212.2	208.1	205.1
57.5°	196.9	198.0	196.9	195.9	195.0	193.9	191.8	188.8	186.8	183.8	181.7
60°	175.6	175.6	174.6	173.6	171.6	170.5	169.5	167.5	164.5	162.4	159.4
62.5°	155.3	154.4	153.3	152.3	150.3	150.3	148.2	146.2	143.2	141.1	139.1
65°	134.0	134.0	133.0	133.0	131.9	129.9	128.9	128.0	123.9	122.8	118.8
67.5°	114.7	115.7	113.8	113.8	111.7	111.7	110.6	107.6	106.6	104.6	102.5
70°	97.5	97.5	97.5	96.4	94.5	93.4	92.4	90.4	89.3	87.4	85.3
72.5°	80.3	80.3	79.2	79.2	78.2	77.1	76.2	74.1	74.1	72.1	70.0
75°	64.9	64.9	64.0	62.9	61.9	61.9	60.9	59.9	57.8	56.9	55.8
77.5°	49.8	49.8	49.8	48.7	47.7	47.7	47.7	45.7	43.6	43.6	42.7
80°	36.5	36.5	35.5	35.5	34.5	34.5	34.5	33.5	32.5	31.5	30.5
82.5°	24.3	24.3	24.3	24.3	23.4	23.4	23.4	22.3	21.3	21.3	21.3
85°	14.2	14.2	14.2	14.2	13.3	13.3	13.3	13.3	13.3	12.2	12.2
87.5°	6.1	5.1	6.1	5.1	6.1	5.1	6.1	5.1	5.1	5.1	5.1
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°	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7
2.5°	722.8	721.8	720.8	719.7	719.7	718.8	716.7	715.6	714.7	713.7	713.7
5°	726.9	725.9	723.8	721.8	720.8	718.8	716.7	714.7	712.6	709.6	708.5
7.5°	729.9	726.9	724.8	720.8	719.7	717.7	714.7	711.7	707.6	703.5	700.5
10°	729.9	725.9	722.8	717.7	715.6	713.7	709.6	704.6	699.5	695.4	690.3
12.5°	727.9	722.8	717.7	712.6	709.6	706.6	700.5	695.4	689.3	683.2	679.1
15°	720.8	714.7	708.5	702.5	699.5	695.4	689.3	682.2	676.1	670.0	662.9
17.5°	707.6	701.6	694.4	687.3	683.2	680.2	671.1	666.0	656.8	650.7	644.7
20°	690.3	683.2	674.1	667.0	661.9	658.9	651.8	642.6	635.5	626.4	620.3
22.5°	667.9	658.9	649.7	642.6	637.6	633.5	624.3	615.2	609.1	600.9	593.8
25°	641.5	632.5	623.3	613.2	608.0	604.1	595.9	587.8	579.7	570.6	564.4
27.5°	610.1	600.0	591.9	582.7	577.7	571.5	562.4	554.3	546.2	540.1	532.0
30°	575.6	564.4	556.3	547.2	542.1	537.1	527.9	519.7	512.6	505.6	501.5
32.5°	533.9	525.9	517.8	508.6	504.5	501.5	492.4	484.3	476.1	470.1	466.9
35°	494.4	485.3	478.1	470.1	465.0	461.9	453.8	446.7	442.6	435.5	431.5
37.5°	452.7	445.6	437.5	429.5	426.3	423.3	417.3	410.2	404.0	399.0	396.9
40°	409.1	403.1	396.0	390.9	387.8	384.8	379.7	374.6	370.5	365.5	363.4
42.5°	367.5	363.4	357.4	351.3	348.2	347.2	341.1	337.0	335.0	332.9	330.9
45°	329.9	323.8	319.8	315.7	312.7	310.6	307.6	304.5	302.6	300.5	298.5
47.5°	293.4	288.4	284.3	281.2	278.1	277.2	275.1	272.1	270.0	270.0	270.0
50°	259.9	255.8	251.7	249.7	248.7	246.7	244.6	243.7	242.7	242.7	242.7
52.5°	230.4	226.4	223.3	221.4	221.4	219.3	217.3	216.2	216.2	216.2	216.2
55°	203.0	200.0	198.0	195.9	193.9	192.9	192.9	192.9	191.8	191.8	192.9
57.5°	178.7	176.7	173.6	171.6	170.5	170.5	169.5	168.6	169.5	170.5	171.6
60°	156.3	154.4	153.3	150.3	150.3	150.3	149.2	149.2	149.2	150.3	151.2
62.5°	136.0	135.0	133.0	131.9	131.0	131.0	129.9	129.9	129.9	129.9	131.0
65°	117.7	115.7	113.8	113.8	113.8	112.7	112.7	110.6	111.7	111.7	110.6
67.5°	100.5	98.4	97.5	96.4	95.4	95.4	94.5	93.4	92.4	92.4	92.4
70°	84.2	82.2	82.2	80.3	80.3	79.2	78.2	78.2	77.1	76.2	75.1
72.5°	68.0	67.0	66.0	64.9	64.9	64.9	64.0	62.9	61.9	60.9	58.9
75°	53.9	53.9	51.8	50.7	50.7	49.8	48.7	47.7	46.8	45.7	44.7
77.5°	41.6	40.6	38.6	37.6	37.6	37.6	36.5	35.5	34.5	33.5	32.5
80°	30.5	29.4	28.4	27.4	27.4	27.4	26.4	26.4	25.4	25.4	25.4
82.5°	20.2	20.2	19.3	19.3	19.3	19.3	18.3	18.3	18.3	18.3	18.3
85°	12.2	12.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
87.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
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°	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7
2.5°	711.7	711.7	709.6	708.5	707.6	708.5	706.6	705.5	704.6	704.6	703.5
5°	705.5	704.6	700.5	699.5	698.4	697.5	695.4	693.4	691.3	690.3	689.3
7.5°	697.5	694.4	690.3	689.3	688.3	685.3	682.2	680.2	677.1	676.1	674.1
10°	686.2	682.2	679.1	676.1	674.1	671.1	667.9	664.9	660.9	659.9	656.8
12.5°	673.1	667.9	661.9	660.9	657.8	653.8	649.7	646.7	643.6	641.5	638.5
15°	656.8	651.8	645.6	642.6	639.6	636.5	631.4	627.3	624.3	621.3	618.3
17.5°	637.6	631.4	626.4	623.3	621.3	616.2	612.1	607.1	604.1	600.9	597.9
20°	614.2	609.1	602.0	599.0	597.9	593.8	588.8	586.8	582.7	579.7	577.7
22.5°	587.8	582.7	576.6	574.5	570.6	568.5	563.5	561.4	559.4	556.3	555.3
25°	558.4	553.2	548.2	547.2	544.2	542.1	539.1	536.0	536.0	533.0	533.0
27.5°	527.9	522.8	518.8	516.7	515.7	513.7	510.7	509.6	508.6	507.5	507.5
30°	495.4	489.4	487.3	486.2	485.3	483.2	482.2	480.2	481.2	482.2	481.2
32.5°	460.9	458.9	454.8	452.7	453.8	452.7	450.8	452.7	451.8	453.8	454.8
35°	427.4	425.4	423.3	423.3	421.3	421.3	421.3	422.4	424.4	425.4	427.4
37.5°	394.9	391.9	390.9	389.8	390.9	390.9	390.9	392.8	394.9	396.9	399.9
40°	360.4	358.4	358.4	358.4	358.4	361.4	360.4	362.5	364.4	367.5	370.5
42.5°	327.9	327.9	329.0	329.0	329.0	329.0	330.9	334.0	337.0	340.1	343.2
45°	297.4	297.4	297.4	299.4	299.4	300.5	304.5	306.6	308.6	311.6	314.7
47.5°	269.1	269.1	270.0	271.0	272.1	274.1	276.2	279.2	282.2	284.3	287.3
50°	242.7	243.7	245.7	247.7	247.7	248.7	251.7	253.8	255.8	258.8	259.9
52.5°	217.3	219.3	221.4	222.3	223.3	225.3	226.4	229.4	230.4	233.5	234.5
55°	193.9	195.0	198.0	198.9	198.9	201.0	203.0	205.1	208.1	208.1	210.2
57.5°	172.6	173.6	175.6	176.7	175.6	178.7	179.7	181.7	182.7	184.7	185.8
60°	151.2	153.3	154.4	154.4	155.3	156.3	158.3	158.3	160.4	162.4	162.4
62.5°	131.0	131.9	133.0	134.0	135.0	134.0	137.0	137.0	139.1	140.1	142.1
65°	111.7	112.7	112.7	113.8	113.8	114.7	114.7	115.7	116.8	118.8	119.8
67.5°	92.4	92.4	92.4	93.4	92.4	93.4	93.4	94.5	94.5	96.4	97.5
70°	75.1	74.1	73.1	73.1	73.1	73.1	72.1	73.1	73.1	74.1	74.1
72.5°	57.8	56.9	55.8	54.8	54.8	53.9	52.8	53.9	53.9	54.8	54.8
75°	43.6	41.6	41.6	41.6	40.6	40.6	40.6	41.6	41.6	41.6	42.7
77.5°	32.5	32.5	31.5	31.5	31.5	32.5	32.5	33.5	33.5	33.5	33.5
80°	24.3	25.4	25.4	25.4	25.4	26.4	26.4	26.4	26.4	27.4	27.4
82.5°	18.3	18.3	18.3	18.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3
85°	11.2	12.2	12.2	11.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
87.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
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-HM80520935-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	714.7	714.7	714.7	714.7	714.7	714.7	714.7	714.7
2.5°	702.5	702.5	702.5	702.5	701.6	701.6	701.6	700.5
5°	687.3	687.3	687.3	685.3	686.2	686.2	684.2	685.3
7.5°	672.0	671.1	670.0	670.0	669.0	667.9	667.0	667.9
10°	654.8	651.8	651.8	650.7	650.7	648.7	648.7	649.7
12.5°	635.5	633.5	633.5	632.5	631.4	630.5	629.4	629.4
15°	616.2	614.2	613.2	612.1	611.2	609.1	610.1	609.1
17.5°	597.0	593.8	593.8	592.9	591.9	589.8	589.8	588.8
20°	574.5	573.6	571.5	572.6	571.5	569.5	568.5	568.5
22.5°	552.3	552.3	551.3	551.3	550.2	549.2	548.2	548.2
25°	530.9	530.0	530.9	530.9	527.9	527.9	527.9	528.9
27.5°	506.6	507.5	506.6	506.6	506.6	506.6	507.5	506.6
30°	482.2	482.2	482.2	483.2	485.3	484.3	484.3	483.2
32.5°	455.9	456.8	456.8	457.9	458.9	460.9	460.9	461.9
35°	429.5	431.5	432.5	431.5	434.5	434.5	436.6	436.6
37.5°	402.0	403.1	405.0	406.1	408.1	409.1	410.2	410.2
40°	372.6	376.7	377.6	378.6	381.7	381.7	382.7	384.8
42.5°	345.1	349.2	350.3	351.3	353.3	356.3	355.4	357.4
45°	318.7	321.9	322.8	323.8	326.9	327.9	327.9	330.9
47.5°	290.3	292.3	293.4	295.5	297.4	299.4	301.5	300.5
50°	262.0	265.0	267.0	268.0	271.0	272.1	273.1	274.1
52.5°	236.5	238.6	239.6	240.6	243.7	244.6	245.7	247.7
55°	212.2	213.2	215.2	214.2	217.3	218.2	219.3	221.4
57.5°	187.9	188.8	189.8	189.8	191.8	193.9	195.0	195.9
60°	164.5	166.5	167.5	167.5	167.5	169.5	169.5	169.5
62.5°	143.2	143.2	144.1	144.1	146.2	146.2	146.2	146.2
65°	120.9	121.8	122.8	122.8	124.8	123.9	125.9	124.8
67.5°	97.5	97.5	99.5	99.5	98.4	99.5	99.5	99.5
70°	74.1	74.1	75.1	75.1	75.1	75.1	75.1	75.1
72.5°	54.8	54.8	54.8	55.8	54.8	54.8	55.8	54.8
75°	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
77.5°	33.5	33.5	34.5	34.5	34.5	34.5	34.5	34.5
80°	27.4	27.4	27.4	27.4	28.4	27.4	27.4	27.4
82.5°	20.2	19.3	20.2	19.3	20.2	20.2	20.2	20.2
85°	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
87.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
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)