

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: P583794

Luminaire Tested: **HC810D010-HM80520930-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583794
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: HC810D010-HM80520930-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 872.5 lumens
Efficiency: N/A
Efficacy: 88.1 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

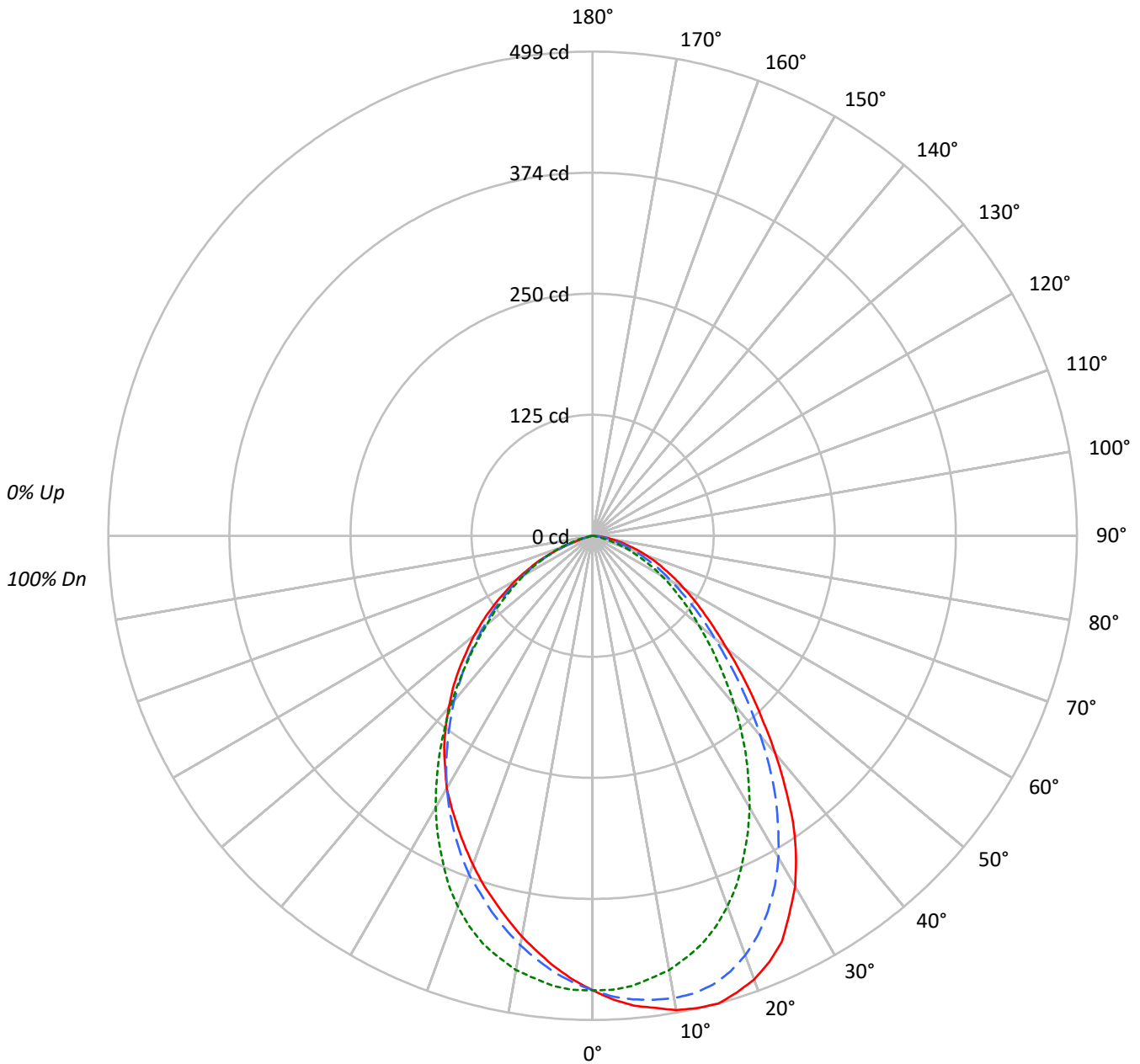
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	14444	14444	14444
5°	15044	14415	13809
10°	15543	14228	13132
15°	15937	13903	12450
20°	15968	13330	11833
25°	15699	12483	11221
30°	14859	11519	10696
35°	13548	10356	10040
40°	11782	9130	9270
45°	10104	7911	8486
50°	8630	6817	7623
55°	7570	5876	6623
60°	6741	5014	5569
65°	5983	4086	4444
70°	5301	3038	2524
75°	4420	1585	751
80°	3481	497	124
85°	2477	248	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.1	5.1
10°-20°	123.7	14.2
20°-30°	175.1	20.1
30°-40°	183.2	21.0
40°-50°	152.8	17.5
50°-60°	108.4	12.4
60°-70°	62.4	7.2
70°-80°	20.1	2.3
80°-90°	2.8	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°	342.9	39.3
0°-40°	526.1	60.3
0°-60°	787.3	90.2
0°-90°	872.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	872.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	468	468	468	468	468	
5°	486	480	466	452	446	47
15°	499	479	436	401	390	140
25°	461	427	367	338	330	211
35°	360	328	275	260	267	223
45°	232	213	181	183	195	180
55°	141	126	109	115	123	127
65°	82	69	56	56	61	82
75°	37	27	13	6	6	40
85°	7	4	1	0	0	9
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°	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4
2.5°	478.3	477.6	476.8	477.6	476.8	477.6	476.8	476.8	476.1	475.4	475.4
5°	486.0	485.2	485.2	485.2	484.5	483.8	483.8	483.1	481.8	481.0	479.6
7.5°	490.8	491.5	491.5	491.5	490.2	490.2	488.7	487.3	486.0	484.5	482.4
10°	496.4	496.4	495.7	495.0	493.7	492.9	492.2	490.8	488.7	486.0	483.8
12.5°	498.5	498.5	497.9	496.4	495.7	495.0	494.3	492.2	489.5	486.0	483.1
15°	499.2	497.9	497.1	496.4	495.0	492.9	492.9	490.2	486.6	482.4	478.9
17.5°	493.7	494.3	492.9	491.5	489.5	488.0	486.0	483.8	479.6	474.7	471.2
20°	486.6	486.0	485.2	483.1	480.3	479.6	477.6	474.1	470.5	464.9	460.0
22.5°	475.4	474.7	473.3	471.9	469.1	467.7	465.7	461.4	456.5	450.9	445.3
25°	461.4	460.0	458.0	455.1	453.0	451.6	448.8	444.6	439.0	432.7	427.1
27.5°	439.0	441.1	439.7	435.5	433.4	430.6	430.0	424.3	419.4	413.1	406.8
30°	417.3	417.3	415.2	413.1	409.6	407.5	404.7	400.5	395.6	387.9	383.0
32.5°	390.0	389.3	386.4	385.8	383.0	378.8	378.1	372.5	367.6	362.0	355.7
35°	359.9	358.4	355.7	353.6	352.2	350.1	348.0	343.1	338.2	332.6	328.4
37.5°	325.6	325.6	324.9	321.4	320.0	318.5	316.5	311.6	308.8	303.1	298.9
40°	292.7	292.0	289.9	289.2	287.8	285.7	284.3	281.5	277.3	273.1	268.9
42.5°	260.5	261.2	258.3	259.0	256.3	254.8	254.1	250.0	247.9	243.6	240.2
45°	231.7	231.0	229.7	229.0	227.5	226.1	224.8	222.6	219.1	214.9	212.9
47.5°	205.2	203.0	203.0	202.3	201.7	198.8	198.1	196.0	194.0	189.8	186.9
50°	179.9	179.9	179.9	179.2	177.2	176.5	175.0	173.0	170.8	168.0	163.8
52.5°	159.6	159.6	159.6	158.9	156.1	155.4	154.7	151.9	149.2	147.0	144.2
55°	140.8	141.5	140.8	139.3	137.3	137.3	135.1	133.8	130.9	128.9	126.1
57.5°	124.6	124.6	123.2	122.5	121.2	120.4	119.0	117.7	114.1	112.0	108.5
60°	109.3	108.5	108.5	107.1	105.8	104.3	103.6	101.6	100.1	96.6	93.9
62.5°	95.2	95.2	93.9	93.9	91.0	91.0	90.3	88.2	86.1	82.6	81.3
65°	82.0	82.0	81.3	80.5	78.4	77.8	77.0	74.9	72.8	70.7	68.6
67.5°	70.1	70.1	68.6	67.9	66.5	65.9	64.4	63.0	60.9	58.8	56.7
70°	58.8	58.1	57.5	56.7	55.3	54.6	53.2	51.8	49.8	48.3	46.2
72.5°	47.6	47.6	46.9	45.6	44.8	44.1	43.4	42.1	39.9	37.9	36.4
75°	37.1	37.1	37.1	35.7	34.3	33.7	33.7	32.2	30.8	28.7	27.3
77.5°	28.7	28.0	27.3	27.3	26.0	25.2	24.5	23.8	21.8	21.0	19.6
80°	19.6	20.3	19.6	18.9	18.2	17.5	17.5	16.1	15.4	14.1	12.6
82.5°	13.3	12.6	12.6	11.9	11.9	11.2	11.2	9.9	9.1	8.4	7.7
85°	7.0	7.0	6.3	6.3	6.3	5.6	5.6	4.9	4.9	4.2	3.5
87.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.4	1.4	1.4
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°	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4
2.5°	474.7	473.3	472.6	472.6	471.9	471.2	470.5	469.9	468.4	468.4	467.0
5°	478.3	476.8	476.1	474.1	472.6	472.6	469.9	469.1	467.0	465.7	464.2
7.5°	481.0	478.3	476.1	474.1	472.6	471.2	468.4	465.7	462.8	460.0	458.6
10°	481.0	478.3	474.7	471.2	469.9	468.4	464.9	460.7	457.2	454.4	450.9
12.5°	479.6	475.4	471.2	468.4	465.7	463.5	459.3	455.1	450.9	445.3	442.5
15°	475.4	469.9	465.7	460.7	458.6	455.1	451.6	445.3	440.4	435.5	432.0
17.5°	467.0	460.0	455.1	450.3	446.7	444.6	439.0	433.4	427.8	422.3	418.1
20°	454.4	448.1	442.5	436.2	433.4	430.6	423.6	418.1	412.4	406.2	401.9
22.5°	439.0	432.7	425.0	420.1	415.9	412.4	406.2	399.8	394.3	388.6	383.0
25°	420.1	413.8	406.8	399.1	396.3	392.8	385.8	379.5	373.2	366.9	362.0
27.5°	399.8	391.4	385.8	377.4	374.5	371.1	363.4	356.4	350.7	345.9	340.3
30°	375.3	369.0	361.3	353.6	350.7	347.3	341.0	334.6	329.1	323.5	317.9
32.5°	348.7	342.3	334.6	329.1	324.9	322.1	315.8	310.2	304.6	298.9	294.1
35°	320.7	313.7	308.1	302.4	298.9	295.5	289.2	284.3	280.1	275.1	270.2
37.5°	292.0	287.0	281.5	275.1	271.7	268.9	264.0	258.3	254.8	250.6	247.1
40°	264.0	258.3	253.5	247.9	245.1	242.9	238.1	233.9	230.3	226.8	224.8
42.5°	235.2	230.3	225.5	222.0	219.8	217.8	214.2	209.4	207.2	203.7	201.7
45°	208.7	204.5	201.0	196.0	194.6	193.3	189.1	185.6	183.4	181.4	179.9
47.5°	183.4	180.7	176.5	173.7	171.5	170.1	167.3	164.6	162.4	161.1	159.6
50°	161.8	158.2	155.4	152.7	151.2	149.2	146.3	145.0	143.5	142.1	142.1
52.5°	141.5	138.0	135.1	133.1	131.6	130.2	128.1	127.4	126.1	126.1	125.4
55°	122.5	120.4	117.7	114.8	114.1	113.5	112.0	110.6	110.0	109.3	110.0
57.5°	106.4	104.3	101.6	99.4	98.7	98.1	97.4	95.9	95.2	95.2	95.2
60°	91.7	89.7	87.5	85.5	85.5	84.0	83.3	82.6	82.0	81.3	81.3
62.5°	78.4	76.3	74.2	72.8	72.1	71.4	70.1	69.4	68.6	68.6	67.9
65°	66.5	63.7	63.0	60.9	60.2	59.5	58.8	57.5	56.7	56.0	55.3
67.5°	54.6	53.2	51.1	49.8	49.0	48.3	47.6	46.2	45.6	44.8	43.4
70°	44.1	42.7	41.3	39.9	39.2	38.5	37.1	35.7	35.0	33.7	31.5
72.5°	34.3	32.9	31.5	30.0	29.4	28.7	27.3	26.0	24.5	23.1	21.8
75°	26.0	24.5	22.4	21.0	20.3	20.3	18.2	16.8	15.4	13.3	11.9
77.5°	18.2	16.1	15.4	14.1	13.3	11.9	10.5	9.1	7.7	7.0	5.6
80°	11.9	10.5	9.1	8.4	7.7	7.0	6.3	4.9	3.5	2.8	2.0
82.5°	7.0	6.3	5.6	4.9	4.2	3.5	2.8	2.8	2.0	1.4	0.7
85°	3.5	2.8	2.0	2.0	1.4	1.4	1.4	0.7	0.7	0.7	0.7
87.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	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°	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4
2.5°	466.3	465.7	464.9	464.2	464.2	462.8	462.8	462.2	460.7	460.0	460.0
5°	462.2	460.0	458.6	458.0	457.2	455.1	454.4	453.0	451.6	450.3	449.5
7.5°	455.8	452.3	450.9	450.3	448.1	446.1	444.6	442.5	440.4	438.2	437.6
10°	448.1	444.6	441.1	439.7	437.6	436.2	433.4	430.6	428.5	426.3	424.3
12.5°	438.2	434.2	430.6	429.2	427.1	424.3	420.1	418.7	415.2	413.8	411.0
15°	427.1	422.3	418.7	416.6	414.4	410.2	407.5	404.7	401.2	399.8	397.0
17.5°	413.1	407.5	404.0	401.9	400.5	397.0	392.8	389.3	385.8	384.4	382.2
20°	396.3	392.8	387.9	385.8	384.4	380.2	376.0	374.5	371.8	369.0	366.9
22.5°	377.4	373.9	369.0	366.9	366.2	362.6	359.2	357.1	355.0	352.9	350.7
25°	357.8	353.6	349.4	348.0	346.5	343.8	341.0	339.6	337.5	336.1	334.6
27.5°	336.8	332.6	329.1	326.9	325.6	323.5	322.1	320.7	319.3	317.9	317.2
30°	314.3	310.2	307.4	306.0	304.6	303.9	301.8	301.1	300.4	298.9	299.7
32.5°	292.0	288.5	285.7	283.6	283.6	282.1	281.5	281.5	280.8	280.8	280.8
35°	267.4	265.4	263.2	262.5	261.9	261.2	260.5	261.2	260.5	261.2	261.9
37.5°	245.1	242.9	241.6	240.9	240.2	240.9	240.2	240.2	240.9	242.2	242.9
40°	222.0	220.6	219.1	219.8	219.1	219.1	219.1	221.3	222.0	222.6	223.3
42.5°	200.3	198.8	198.1	198.1	198.8	198.1	199.5	200.3	201.7	203.7	205.2
45°	179.2	178.5	178.5	179.2	178.5	179.9	179.9	181.4	183.4	184.9	186.2
47.5°	159.6	159.6	159.6	160.3	160.3	161.1	162.4	163.1	164.6	166.0	167.3
50°	141.5	142.1	142.8	142.8	142.8	144.2	145.7	146.3	147.0	147.7	149.9
52.5°	125.4	126.1	126.1	126.7	127.4	128.1	128.9	130.2	130.9	132.3	133.1
55°	110.0	110.0	111.3	112.0	112.0	112.0	113.5	113.5	114.8	115.5	117.0
57.5°	95.2	95.9	95.9	96.6	96.6	97.4	98.1	98.7	99.4	100.1	100.8
60°	81.3	81.3	81.3	82.0	82.6	83.3	82.6	84.0	84.0	85.5	86.1
62.5°	67.9	68.6	68.6	68.6	68.6	68.6	68.6	69.4	70.1	70.7	71.4
65°	55.3	55.3	55.3	54.6	55.3	54.6	55.3	56.0	56.0	56.7	57.5
67.5°	42.7	42.7	41.3	41.3	42.1	42.1	42.1	42.1	41.3	42.7	42.7
70°	30.8	30.0	29.4	28.7	28.7	28.0	28.0	27.3	27.3	27.3	27.3
72.5°	20.3	18.9	17.5	16.8	16.1	16.1	14.7	14.1	14.7	14.7	14.7
75°	10.5	9.1	8.4	7.7	7.0	7.0	6.3	6.3	6.3	6.3	6.3
77.5°	4.2	3.5	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	1.4	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.7	0.0	0.0	0.7	0.0	0.7	0.7	0.7	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



TEST NUMBER: P583794

CATALOG NUMBER: HC810D010-HM80520930-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4
2.5°	459.3	459.3	458.6	459.3	458.0	458.6	458.0	458.0
5°	448.8	447.4	447.4	447.4	446.7	446.7	446.1	446.1
7.5°	436.2	435.5	434.8	434.2	433.4	432.7	432.7	432.7
10°	423.6	422.3	422.3	421.5	420.1	419.4	419.4	419.4
12.5°	408.9	408.2	407.5	407.5	404.7	405.4	404.7	404.7
15°	394.9	394.3	394.3	392.1	390.6	390.6	390.6	390.0
17.5°	380.2	379.5	378.8	377.4	376.0	376.0	375.3	376.0
20°	364.8	364.1	362.6	362.6	362.0	361.3	359.9	360.6
22.5°	349.4	348.0	347.3	347.3	346.5	346.5	345.2	345.2
25°	333.3	332.6	331.9	332.6	331.2	331.2	329.8	329.8
27.5°	316.5	315.8	315.8	315.8	315.0	315.8	315.0	315.0
30°	299.7	299.7	298.9	298.9	299.7	298.9	299.7	300.4
32.5°	281.5	281.5	282.1	282.1	282.8	282.8	282.8	282.8
35°	262.5	264.0	264.0	264.7	265.4	266.1	266.1	266.7
37.5°	245.1	245.8	246.4	247.1	248.6	248.6	248.6	248.6
40°	226.1	226.8	228.3	227.5	230.3	231.0	230.3	230.3
42.5°	206.5	207.9	208.7	210.1	210.7	212.2	212.9	212.9
45°	188.4	189.1	190.4	191.8	192.6	194.6	194.6	194.6
47.5°	169.5	170.8	171.5	173.0	173.7	175.7	176.5	175.7
50°	151.2	152.7	154.1	154.1	156.1	156.9	158.2	158.9
52.5°	133.8	134.4	135.8	136.5	138.0	139.3	140.0	140.8
55°	117.0	117.7	119.0	119.0	121.2	121.9	123.2	123.2
57.5°	101.6	102.2	103.6	102.9	104.3	105.8	105.8	105.1
60°	86.8	86.8	86.8	88.2	88.9	89.7	90.3	90.3
62.5°	71.4	72.8	73.6	73.6	74.2	74.9	74.9	74.2
65°	57.5	58.8	59.5	59.5	60.2	60.2	60.2	60.9
67.5°	43.4	43.4	43.4	44.1	43.4	43.4	43.4	43.4
70°	27.3	27.3	27.3	27.3	26.6	27.3	27.3	28.0
72.5°	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
75°	6.3	6.3	6.3	7.0	6.3	6.3	6.3	6.3
77.5°	2.8	2.0	2.8	2.8	2.0	2.0	2.0	2.0
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.0	0.7	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)