

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: P583796

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583796
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: HC810D010-HM80520930-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 991.6 lumens
Efficiency: N/A
Efficacy: 100.2 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

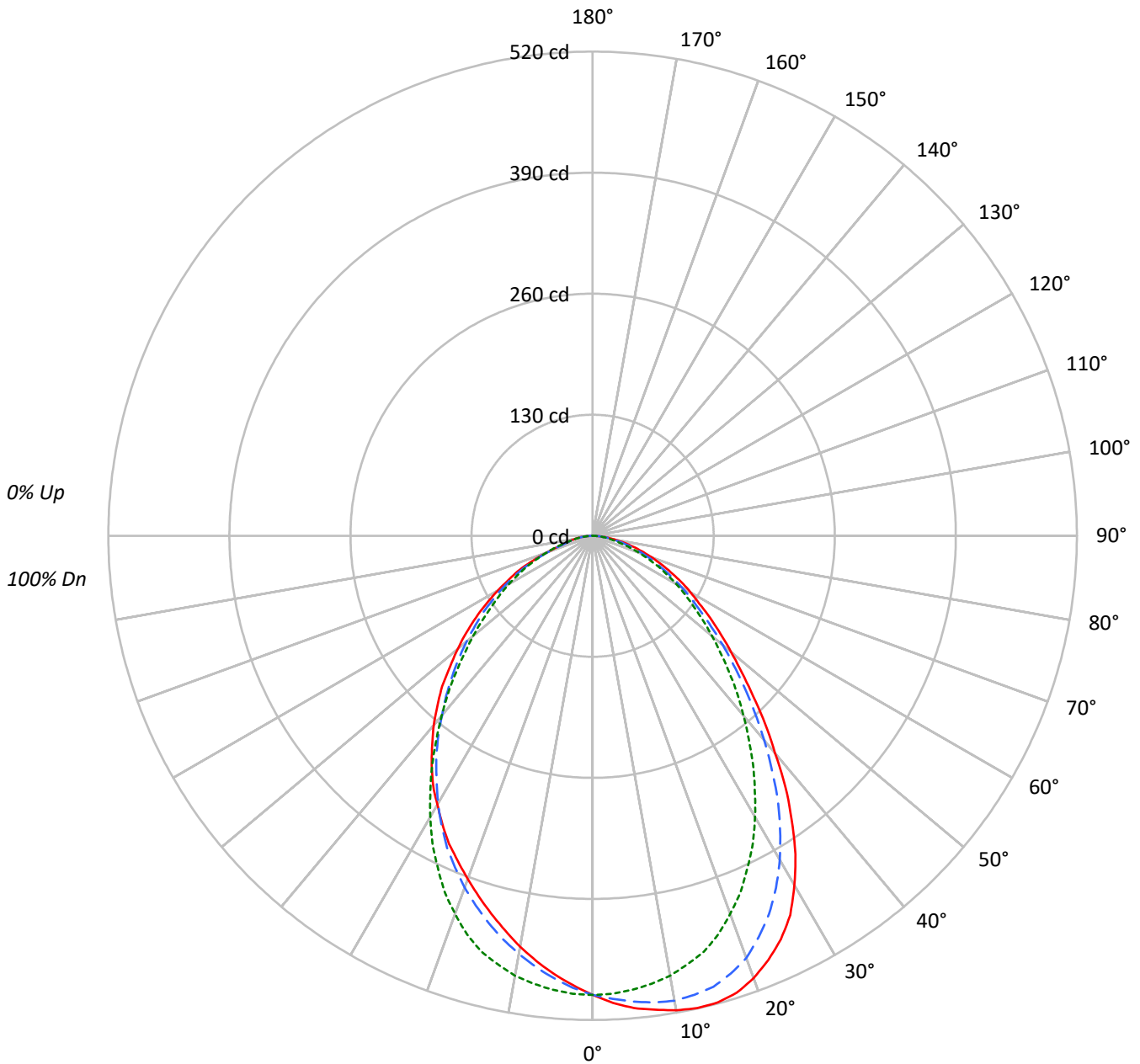
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	15205	15205	15205
5°	15762	15152	14632
10°	16204	15020	14034
15°	16565	14755	13415
20°	16591	14179	12870
25°	16274	13388	12412
30°	15432	12416	11868
35°	14022	11308	11335
40°	12261	10148	10683
45°	10623	9040	9956
50°	9307	8026	9072
55°	8285	7113	8209
60°	7475	6389	7216
65°	6742	5618	6290
70°	6059	4733	4670
75°	5338	3753	3503
80°	4475	3108	3356
85°	3503	2724	2972



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	4.7
10°-20°	131.0	13.2
20°-30°	187.2	18.9
30°-40°	198.9	20.1
40°-50°	171.3	17.3
50°-60°	128.0	12.9
60°-70°	81.7	8.2
70°-80°	37.2	3.7
80°-90°	9.8	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°	364.7	36.8
0°-40°	563.6	56.8
0°-60°	863.0	87.0
0°-90°	991.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	991.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	493	493	493	493	493	
5°	509	502	490	477	473	49
15°	519	501	462	431	420	146
25°	478	448	394	370	365	219
35°	372	347	300	293	301	232
45°	244	230	207	213	228	189
55°	154	142	132	144	153	139
65°	92	82	77	80	86	92
75°	45	38	32	29	29	48
85°	10	8	8	8	8	12
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°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1
2.5°	502.1	500.8	501.4	500.8	501.4	501.4	500.0	500.0	500.0	500.0	497.9
5°	509.2	508.4	508.4	507.7	507.0	507.7	507.0	506.3	505.0	504.2	502.1
7.5°	513.3	513.3	513.3	513.3	512.7	511.9	511.2	509.8	508.4	507.0	505.6
10°	517.5	518.2	517.5	516.9	516.1	514.7	514.0	512.7	510.5	508.4	507.0
12.5°	519.6	519.6	518.9	518.9	517.5	516.9	514.7	512.7	510.5	508.4	505.0
15°	518.9	518.9	518.2	517.5	515.4	514.7	513.3	511.2	507.7	505.0	501.4
17.5°	514.7	514.0	512.7	512.7	509.8	509.2	507.7	505.0	501.4	497.1	493.1
20°	505.6	505.6	505.0	504.2	501.4	499.3	497.9	494.4	491.6	486.7	482.5
22.5°	493.1	494.4	493.1	491.6	488.1	487.4	485.2	481.0	477.0	471.3	466.4
25°	478.3	477.6	477.0	475.5	472.7	471.3	468.5	464.3	460.1	453.8	448.2
27.5°	459.4	456.6	456.6	453.8	451.7	449.5	448.2	444.0	438.4	433.4	426.5
30°	433.4	434.2	430.7	430.0	426.5	425.0	422.3	418.1	413.1	407.6	401.9
32.5°	405.4	403.4	403.4	400.6	397.7	395.7	395.0	390.0	385.8	380.3	374.7
35°	372.5	372.5	370.5	369.7	367.0	365.5	363.5	360.6	355.8	350.9	346.7
37.5°	340.3	339.0	338.2	336.8	334.8	332.6	332.6	327.8	327.1	321.4	315.9
40°	304.6	306.0	304.6	302.5	301.8	300.4	299.8	296.9	294.9	289.9	286.4
42.5°	274.5	273.1	273.1	272.4	269.6	269.6	268.2	266.8	263.4	261.9	257.7
45°	243.6	245.1	243.0	243.6	240.9	240.9	240.9	238.1	235.4	233.2	230.4
47.5°	217.1	217.8	217.8	215.6	215.0	215.0	213.6	212.2	210.1	207.3	205.2
50°	194.0	194.7	193.3	192.6	191.2	190.5	190.5	187.6	186.3	183.4	182.1
52.5°	173.0	173.0	172.2	172.2	170.2	170.2	168.8	166.7	165.3	163.8	160.3
55°	154.1	154.1	153.4	152.7	152.7	150.6	149.9	147.7	146.4	143.5	141.5
57.5°	135.8	136.5	135.8	135.1	134.5	133.8	132.3	130.3	128.9	126.8	125.4
60°	121.2	121.2	120.4	119.7	118.4	117.7	117.0	115.5	113.5	112.0	110.0
62.5°	107.1	106.5	105.8	105.1	103.6	103.6	102.3	100.8	98.7	97.4	95.9
65°	92.4	92.4	91.7	91.7	91.0	89.7	88.9	88.2	85.5	84.7	82.0
67.5°	79.1	79.8	78.5	78.5	77.0	77.0	76.3	74.3	73.6	72.1	70.7
70°	67.2	67.2	67.2	66.5	65.1	64.4	63.7	62.4	61.7	60.2	58.8
72.5°	55.3	55.3	54.6	54.6	54.0	53.2	52.5	51.1	51.1	49.8	48.3
75°	44.8	44.8	44.1	43.4	42.7	42.7	42.1	41.3	39.9	39.2	38.5
77.5°	34.3	34.3	34.3	33.7	32.9	32.9	32.9	31.5	30.2	30.2	29.4
80°	25.2	25.2	24.5	24.5	23.8	23.8	23.8	23.1	22.4	21.8	21.0
82.5°	16.8	16.8	16.8	16.8	16.1	16.1	16.1	15.4	14.7	14.7	14.7
85°	9.9	9.9	9.9	9.9	9.1	9.1	9.1	9.1	9.1	8.4	8.4
87.5°	4.2	3.5	4.2	3.5	4.2	3.5	4.2	3.5	3.5	3.5	3.5
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°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1
2.5°	498.6	497.9	497.1	496.5	496.5	495.8	494.4	493.7	493.1	492.3	492.3
5°	501.4	500.8	499.3	497.9	497.1	495.8	494.4	493.1	491.6	489.5	488.9
7.5°	503.5	501.4	500.0	497.1	496.5	495.1	493.1	490.9	488.1	485.2	483.2
10°	503.5	500.8	498.6	495.1	493.7	492.3	489.5	486.0	482.5	479.7	476.2
12.5°	502.1	498.6	495.1	491.6	489.5	487.4	483.2	479.7	475.5	471.3	468.5
15°	497.1	493.1	488.9	484.6	482.5	479.7	475.5	470.6	466.4	462.2	457.2
17.5°	488.1	483.9	479.0	474.1	471.3	469.1	462.9	459.4	453.0	448.8	444.7
20°	476.2	471.3	464.9	460.1	456.6	454.5	449.5	443.3	438.4	432.1	427.9
22.5°	460.8	454.5	448.2	443.3	439.8	436.9	430.7	424.4	420.2	414.6	409.6
25°	442.6	436.3	430.0	423.0	419.5	416.6	411.1	405.4	399.9	393.5	389.3
27.5°	420.8	413.8	408.3	401.9	398.5	394.3	388.0	382.4	376.7	372.5	367.0
30°	397.0	389.3	383.8	377.4	373.9	370.5	364.2	358.6	353.6	348.7	345.9
32.5°	368.4	362.8	357.1	350.9	348.1	345.9	339.7	334.0	328.4	324.2	322.1
35°	341.0	334.8	329.8	324.2	320.7	318.7	313.0	308.1	305.3	300.4	297.6
37.5°	312.3	307.5	301.8	296.2	294.1	292.0	287.9	283.0	278.7	275.3	273.8
40°	282.2	278.0	273.1	269.6	267.6	265.4	261.9	258.4	255.7	252.1	250.7
42.5°	253.5	250.7	246.5	242.3	240.2	239.6	235.4	232.5	231.1	229.7	228.3
45°	227.5	223.5	220.6	217.8	215.6	214.3	212.2	210.1	208.7	207.3	205.9
47.5°	202.4	198.9	196.0	194.0	191.8	191.2	189.8	187.6	186.3	186.3	186.3
50°	179.2	176.5	173.7	172.2	171.5	170.2	168.8	168.0	167.3	167.3	167.3
52.5°	159.0	156.1	154.1	152.7	152.7	151.2	149.9	149.2	149.2	149.2	149.2
55°	140.0	138.0	136.5	135.1	133.8	133.1	133.1	133.1	132.3	132.3	133.1
57.5°	123.2	121.9	119.7	118.4	117.7	117.7	117.0	116.2	117.0	117.7	118.4
60°	107.8	106.5	105.8	103.6	103.6	103.6	102.9	102.9	102.9	103.6	104.3
62.5°	93.9	93.2	91.7	91.0	90.4	90.4	89.7	89.7	89.7	89.7	90.4
65°	81.3	79.8	78.5	78.5	78.5	77.8	77.8	76.3	77.0	77.0	76.3
67.5°	69.4	67.9	67.2	66.5	65.9	65.9	65.1	64.4	63.7	63.7	63.7
70°	58.2	56.7	56.7	55.3	55.3	54.6	54.0	54.0	53.2	52.5	51.8
72.5°	46.9	46.3	45.6	44.8	44.8	44.8	44.1	43.4	42.7	42.1	40.6
75°	37.1	37.1	35.7	35.0	35.0	34.3	33.7	32.9	32.2	31.5	30.8
77.5°	28.7	28.0	26.6	26.0	26.0	26.0	25.2	24.5	23.8	23.1	22.4
80°	21.0	20.3	19.6	18.9	18.9	18.9	18.2	18.2	17.5	17.5	17.5
82.5°	14.1	14.1	13.3	13.3	13.3	13.3	12.6	12.6	12.6	12.6	12.6
85°	8.4	8.4	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1
2.5°	490.9	490.9	489.5	488.9	488.1	488.9	487.4	486.7	486.0	486.0	485.2
5°	486.7	486.0	483.2	482.5	481.8	481.0	479.7	478.3	477.0	476.2	475.5
7.5°	481.0	479.0	476.2	475.5	474.8	472.7	470.6	469.1	467.1	466.4	464.9
10°	473.3	470.6	468.5	466.4	464.9	462.9	460.8	458.7	455.9	455.2	453.0
12.5°	464.3	460.8	456.6	455.9	453.8	451.0	448.2	446.1	444.0	442.6	440.5
15°	453.0	449.5	445.3	443.3	441.1	439.1	435.6	432.7	430.7	428.6	426.5
17.5°	439.8	435.6	432.1	430.0	428.6	425.0	422.3	418.8	416.6	414.6	412.5
20°	423.7	420.2	415.3	413.1	412.5	409.6	406.2	404.7	401.9	399.9	398.5
22.5°	405.4	401.9	397.7	396.4	393.5	392.2	388.6	387.3	385.8	383.8	383.1
25°	385.1	381.6	378.1	377.4	375.4	373.9	371.9	369.7	369.7	367.7	367.7
27.5°	364.2	360.6	357.8	356.4	355.8	354.3	352.3	351.6	350.9	350.1	350.1
30°	341.7	337.5	336.2	335.5	334.8	333.3	332.6	331.3	332.0	332.6	332.0
32.5°	317.9	316.5	313.7	312.3	313.0	312.3	311.0	312.3	311.7	313.0	313.7
35°	294.9	293.4	292.0	292.0	290.6	290.6	290.6	291.4	292.7	293.4	294.9
37.5°	272.4	270.3	269.6	268.9	269.6	269.6	269.6	271.1	272.4	273.8	275.9
40°	248.6	247.3	247.3	247.3	247.3	249.3	248.6	250.0	251.5	253.5	255.7
42.5°	226.2	226.2	226.9	226.9	226.9	226.9	228.3	230.4	232.5	234.6	236.7
45°	205.2	205.2	205.2	206.6	206.6	207.3	210.1	211.4	212.9	215.0	217.1
47.5°	185.6	185.6	186.3	187.0	187.6	189.1	190.5	192.6	194.7	196.0	198.2
50°	167.3	168.0	169.5	170.9	170.9	171.5	173.7	175.1	176.5	178.6	179.2
52.5°	149.9	151.2	152.7	153.4	154.1	155.4	156.1	158.3	159.0	161.1	161.8
55°	133.8	134.5	136.5	137.3	137.3	138.7	140.0	141.5	143.5	143.5	145.0
57.5°	119.0	119.7	121.2	121.9	121.2	123.2	123.9	125.4	126.1	127.4	128.1
60°	104.3	105.8	106.5	106.5	107.1	107.8	109.3	109.3	110.7	112.0	112.0
62.5°	90.4	91.0	91.7	92.4	93.2	92.4	94.6	94.6	95.9	96.6	98.1
65°	77.0	77.8	77.8	78.5	78.5	79.1	79.1	79.8	80.5	82.0	82.6
67.5°	63.7	63.7	63.7	64.4	63.7	64.4	64.4	65.1	65.1	66.5	67.2
70°	51.8	51.1	50.4	50.4	50.4	50.4	49.8	50.4	50.4	51.1	51.1
72.5°	39.9	39.2	38.5	37.9	37.9	37.1	36.4	37.1	37.1	37.9	37.9
75°	30.2	28.7	28.7	28.7	28.0	28.0	28.0	28.7	28.7	28.7	29.4
77.5°	22.4	22.4	21.8	21.8	21.8	22.4	22.4	23.1	23.1	23.1	23.1
80°	16.8	17.5	17.5	17.5	17.5	18.2	18.2	18.2	18.2	18.9	18.9
82.5°	12.6	12.6	12.6	12.6	13.3	13.3	13.3	13.3	13.3	13.3	13.3
85°	7.7	8.4	8.4	7.7	8.4	8.4	8.4	8.4	8.4	8.4	8.4
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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: P583796

CATALOG NUMBER: HC810D010-HM80520930-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1
2.5°	484.6	484.6	484.6	484.6	483.9	483.9	483.9	483.2
5°	474.1	474.1	474.1	472.7	473.3	473.3	472.0	472.7
7.5°	463.6	462.9	462.2	462.2	461.4	460.8	460.1	460.8
10°	451.7	449.5	449.5	448.8	448.8	447.5	447.5	448.2
12.5°	438.4	436.9	436.9	436.3	435.6	434.9	434.2	434.2
15°	425.0	423.7	423.0	422.3	421.5	420.2	420.8	420.2
17.5°	411.8	409.6	409.6	408.9	408.3	406.9	406.9	406.2
20°	396.4	395.7	394.3	395.0	394.3	392.8	392.2	392.2
22.5°	380.9	380.9	380.3	380.3	379.6	378.9	378.1	378.1
25°	366.2	365.5	366.2	366.2	364.2	364.2	364.2	364.8
27.5°	349.4	350.1	349.4	349.4	349.4	349.4	350.1	349.4
30°	332.6	332.6	332.6	333.3	334.8	334.0	334.0	333.3
32.5°	314.4	315.2	315.2	315.9	316.5	317.9	317.9	318.7
35°	296.2	297.6	298.3	297.6	299.8	299.8	301.1	301.1
37.5°	277.3	278.0	279.5	280.1	281.5	282.2	283.0	283.0
40°	257.0	259.8	260.5	261.2	263.4	263.4	264.0	265.4
42.5°	238.1	240.9	241.6	242.3	243.6	245.8	245.1	246.5
45°	219.8	222.0	222.7	223.5	225.5	226.2	226.2	228.3
47.5°	200.3	201.7	202.4	203.7	205.2	206.6	207.9	207.3
50°	180.7	182.8	184.1	184.9	187.0	187.6	188.4	189.1
52.5°	163.1	164.6	165.3	166.0	168.0	168.8	169.5	170.9
55°	146.4	147.0	148.4	147.7	149.9	150.6	151.2	152.7
57.5°	129.6	130.3	130.9	130.9	132.3	133.8	134.5	135.1
60°	113.5	114.8	115.5	115.5	115.5	117.0	117.0	117.0
62.5°	98.7	98.7	99.4	99.4	100.8	100.8	100.8	100.8
65°	83.3	84.0	84.7	84.7	86.2	85.5	86.8	86.2
67.5°	67.2	67.2	68.6	68.6	67.9	68.6	68.6	68.6
70°	51.1	51.1	51.8	51.8	51.8	51.8	51.8	51.8
72.5°	37.9	37.9	37.9	38.5	37.9	37.9	38.5	37.9
75°	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
77.5°	23.1	23.1	23.8	23.8	23.8	23.8	23.8	23.8
80°	18.9	18.9	18.9	18.9	19.6	18.9	18.9	18.9
82.5°	14.1	13.3	14.1	13.3	14.1	14.1	14.1	14.1
85°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)