

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: P593547

Luminaire Tested: **HC810D010-HM80520950-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593547
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-HM80520950-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 948.8 lumens
Efficiency: N/A
Efficacy: 95.8 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

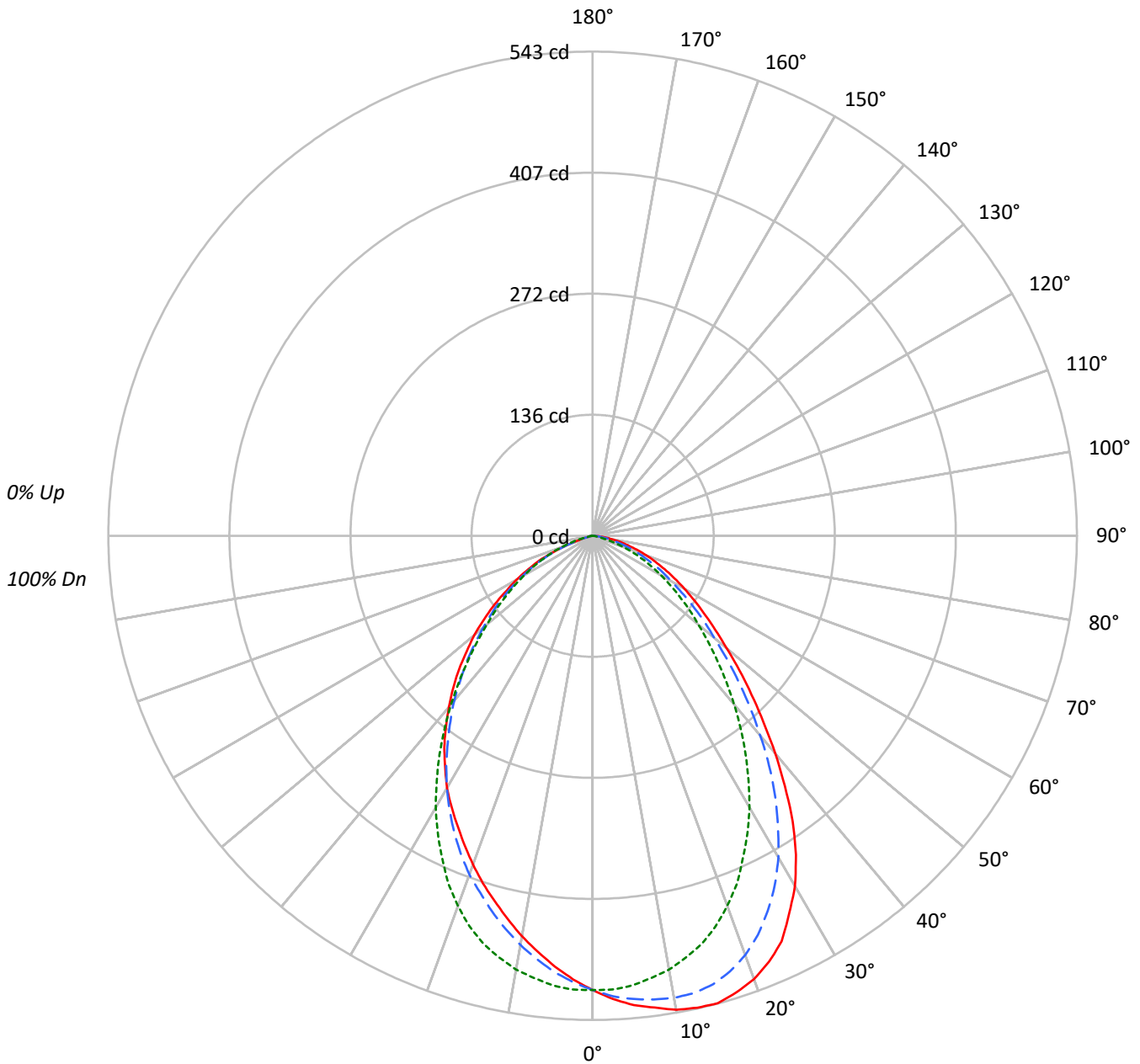
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15708	15708	15708
5°	16356	15672	15013
10°	16902	15471	14278
15°	17328	15119	13539
20°	17363	14491	12867
25°	17070	13572	12201
30°	16158	12523	11629
35°	14734	11263	10917
40°	12813	9931	10084
45°	10994	8600	9232
50°	9388	7417	8290
55°	8226	6387	7204
60°	7327	5446	6056
65°	6501	4444	4830
70°	5761	3291	2741
75°	4813	1716	822
80°	3782	533	124
85°	2689	248	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.0	5.1
10°-20°	134.5	14.2
20°-30°	190.4	20.1
30°-40°	199.2	21.0
40°-50°	166.2	17.5
50°-60°	117.8	12.4
60°-70°	67.8	7.2
70°-80°	21.8	2.3
80°-90°	3.0	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°	372.9	39.3
0°-40°	572.1	60.3
0°-60°	856.1	90.2
0°-90°	948.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	948.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	509	509	509	509	509	
5°	528	522	506	491	485	51
15°	543	521	474	436	424	153
25°	502	464	399	367	359	229
35°	391	357	299	283	290	243
45°	252	232	197	200	212	195
55°	153	137	119	125	134	138
65°	89	75	61	61	66	89
75°	40	30	14	7	7	44
85°	8	4	1	0	0	10
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°	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4
2.5°	520.0	519.3	518.5	519.3	518.5	519.3	518.5	518.5	517.7	517.0	517.0
5°	528.4	527.7	527.7	527.7	526.8	526.1	526.1	525.4	523.8	523.1	521.5
7.5°	533.7	534.5	534.5	534.5	533.0	533.0	531.4	530.0	528.4	526.8	524.6
10°	539.8	539.8	539.1	538.3	536.8	536.0	535.3	533.7	531.4	528.4	526.1
12.5°	542.1	542.1	541.4	539.8	539.1	538.3	537.5	535.3	532.2	528.4	525.4
15°	542.8	541.4	540.5	539.8	538.3	536.0	536.0	533.0	529.1	524.6	520.8
17.5°	536.8	537.5	536.0	534.5	532.2	530.7	528.4	526.1	521.5	516.3	512.4
20°	529.1	528.4	527.7	525.4	522.3	521.5	519.3	515.4	511.7	505.6	500.3
22.5°	517.0	516.3	514.7	513.1	510.1	508.6	506.3	501.7	496.4	490.3	484.3
25°	501.7	500.3	498.0	494.9	492.6	491.1	488.0	483.4	477.4	470.6	464.5
27.5°	477.4	479.7	478.2	473.6	471.3	468.3	467.5	461.4	456.0	449.2	442.3
30°	453.8	453.8	451.5	449.2	445.3	443.1	440.1	435.5	430.2	421.8	416.5
32.5°	424.1	423.3	420.2	419.5	416.5	411.9	411.1	405.1	399.7	393.7	386.8
35°	391.4	389.8	386.8	384.5	383.0	380.7	378.4	373.1	367.7	361.7	357.1
37.5°	354.0	354.0	353.3	349.4	348.0	346.4	344.1	338.8	335.7	329.7	325.1
40°	318.3	317.4	315.2	314.4	312.9	310.6	309.2	306.0	301.5	296.9	292.3
42.5°	283.2	284.0	280.9	281.7	278.6	277.2	276.3	271.8	269.5	264.9	261.2
45°	252.1	251.2	249.8	248.9	247.5	245.9	244.4	242.1	238.4	233.8	231.5
47.5°	223.1	220.8	220.8	220.1	219.2	216.2	215.5	213.2	211.0	206.4	203.3
50°	195.7	195.7	195.7	195.0	192.7	191.8	190.4	188.1	185.8	182.7	178.1
52.5°	173.6	173.6	173.6	172.8	169.8	169.0	168.3	165.3	162.1	159.9	156.9
55°	153.0	153.9	153.0	151.6	149.2	149.2	146.9	145.4	142.3	140.0	137.0
57.5°	135.5	135.5	134.0	133.2	131.7	130.9	129.5	127.9	124.0	121.8	118.0
60°	118.8	118.0	118.0	116.5	114.9	113.5	112.6	110.3	108.9	105.1	102.0
62.5°	103.5	103.5	102.0	102.0	98.9	98.9	98.2	95.9	93.6	89.8	88.3
65°	89.1	89.1	88.3	87.5	85.2	84.5	83.8	81.5	79.2	76.9	74.6
67.5°	76.1	76.1	74.6	73.8	72.4	71.5	70.1	68.5	66.2	63.9	61.7
70°	63.9	63.2	62.4	61.7	60.1	59.4	57.8	56.4	54.1	52.5	50.2
72.5°	51.8	51.8	51.0	49.5	48.7	48.0	47.2	45.7	43.4	41.1	39.5
75°	40.4	40.4	40.4	38.8	37.3	36.5	36.5	35.0	33.5	31.3	29.7
77.5°	31.3	30.4	29.7	29.7	28.1	27.4	26.7	25.8	23.6	22.8	21.3
80°	21.3	22.1	21.3	20.6	19.8	19.0	19.0	17.5	16.7	15.3	13.7
82.5°	14.4	13.7	13.7	13.0	13.0	12.1	12.1	10.7	9.9	9.1	8.4
85°	7.6	7.6	6.9	6.9	6.9	6.1	6.1	5.3	5.3	4.6	3.8
87.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.6	1.6	1.6
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°	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4
2.5°	516.3	514.7	514.0	514.0	513.1	512.4	511.7	510.8	509.4	509.4	507.8
5°	520.0	518.5	517.7	515.4	514.0	514.0	510.8	510.1	507.8	506.3	504.8
7.5°	523.1	520.0	517.7	515.4	514.0	512.4	509.4	506.3	503.3	500.3	498.7
10°	523.1	520.0	516.3	512.4	510.8	509.4	505.6	501.0	497.1	494.1	490.3
12.5°	521.5	517.0	512.4	509.4	506.3	504.0	499.4	494.9	490.3	484.3	481.2
15°	517.0	510.8	506.3	501.0	498.7	494.9	491.1	484.3	478.9	473.6	469.7
17.5°	507.8	500.3	494.9	489.6	485.7	483.4	477.4	471.3	465.2	459.2	454.6
20°	494.1	487.3	481.2	474.3	471.3	468.3	460.6	454.6	448.5	441.6	437.0
22.5°	477.4	470.6	462.2	456.9	452.3	448.5	441.6	434.8	428.6	422.5	416.5
25°	456.9	450.0	442.3	433.9	430.9	427.1	419.5	412.6	405.8	398.9	393.7
27.5°	434.8	425.6	419.5	410.4	407.4	403.5	395.1	387.5	381.4	376.1	370.0
30°	408.1	401.2	392.8	384.5	381.4	377.7	370.8	364.0	357.8	351.7	345.7
32.5°	379.1	372.3	364.0	357.8	353.3	350.3	343.4	337.3	331.2	325.1	319.7
35°	348.7	341.1	335.0	328.9	325.1	321.3	314.4	309.2	304.6	299.2	293.9
37.5°	317.4	312.2	306.0	299.2	295.5	292.3	287.0	280.9	277.2	272.6	268.8
40°	287.0	280.9	275.6	269.5	266.5	264.2	258.9	254.3	250.5	246.7	244.4
42.5°	255.8	250.5	245.2	241.4	239.1	236.8	232.9	227.7	225.4	221.5	219.2
45°	226.9	222.4	218.5	213.2	211.7	210.1	205.5	201.8	199.5	197.2	195.7
47.5°	199.5	196.4	191.8	188.8	186.6	185.0	182.0	179.0	176.7	175.1	173.6
50°	175.9	172.1	169.0	166.0	164.4	162.1	159.1	157.6	156.1	154.6	154.6
52.5°	153.9	150.0	146.9	144.6	143.2	141.6	139.3	138.6	137.0	137.0	136.3
55°	133.2	130.9	127.9	124.9	124.0	123.3	121.8	120.3	119.5	118.8	119.5
57.5°	115.8	113.5	110.3	108.1	107.3	106.6	105.8	104.3	103.5	103.5	103.5
60°	99.8	97.5	95.2	92.9	92.9	91.4	90.6	89.8	89.1	88.3	88.3
62.5°	85.2	82.9	80.7	79.2	78.4	77.6	76.1	75.4	74.6	74.6	73.8
65°	72.4	69.2	68.5	66.2	65.5	64.7	63.9	62.4	61.7	60.9	60.1
67.5°	59.4	57.8	55.5	54.1	53.2	52.5	51.8	50.2	49.5	48.7	47.2
70°	48.0	46.4	45.0	43.4	42.7	41.8	40.4	38.8	38.1	36.5	34.3
72.5°	37.3	35.8	34.3	32.7	32.0	31.3	29.7	28.1	26.7	25.1	23.6
75°	28.1	26.7	24.4	22.8	22.1	22.1	19.8	18.3	16.7	14.4	13.0
77.5°	19.8	17.5	16.7	15.3	14.4	13.0	11.4	9.9	8.4	7.6	6.1
80°	13.0	11.4	9.9	9.1	8.4	7.6	6.9	5.3	3.8	3.0	2.3
82.5°	7.6	6.9	6.1	5.3	4.6	3.8	3.0	3.0	2.3	1.6	0.7
85°	3.8	3.0	2.3	2.3	1.6	1.6	1.6	0.7	0.7	0.7	0.7
87.5°	1.6	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°	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4
2.5°	507.1	506.3	505.6	504.8	504.8	503.3	503.3	502.6	501.0	500.3	500.3
5°	502.6	500.3	498.7	498.0	497.1	494.9	494.1	492.6	491.1	489.6	488.9
7.5°	495.7	491.9	490.3	489.6	487.3	485.0	483.4	481.2	478.9	476.6	475.9
10°	487.3	483.4	479.7	478.2	475.9	474.3	471.3	468.3	466.0	463.7	461.4
12.5°	476.6	472.0	468.3	466.7	464.5	461.4	456.9	455.3	451.5	450.0	446.9
15°	464.5	459.2	455.3	453.0	450.8	446.2	443.1	440.1	436.2	434.8	431.6
17.5°	449.2	443.1	439.3	437.0	435.5	431.6	427.1	423.3	419.5	417.9	415.7
20°	430.9	427.1	421.8	419.5	417.9	413.4	408.8	407.4	404.2	401.2	398.9
22.5°	410.4	406.5	401.2	398.9	398.2	394.4	390.5	388.2	386.0	383.7	381.4
25°	389.1	384.5	380.0	378.4	376.8	373.8	370.8	369.3	367.0	365.4	364.0
27.5°	366.2	361.7	357.8	355.6	354.0	351.7	350.3	348.7	347.1	345.7	344.9
30°	341.8	337.3	334.3	332.7	331.2	330.4	328.1	327.4	326.6	325.1	325.9
32.5°	317.4	313.7	310.6	308.3	308.3	306.9	306.0	306.0	305.3	305.3	305.3
35°	290.9	288.6	286.3	285.5	284.8	284.0	283.2	284.0	283.2	284.0	284.8
37.5°	266.5	264.2	262.6	261.9	261.2	261.9	261.2	261.2	261.9	263.5	264.2
40°	241.4	239.8	238.4	239.1	238.4	238.4	238.4	240.6	241.4	242.1	242.9
42.5°	217.8	216.2	215.5	215.5	216.2	215.5	217.0	217.8	219.2	221.5	223.1
45°	195.0	194.1	194.1	195.0	194.1	195.7	195.7	197.2	199.5	201.0	202.5
47.5°	173.6	173.6	173.6	174.4	174.4	175.1	176.7	177.4	179.0	180.4	182.0
50°	153.9	154.6	155.3	155.3	155.3	156.9	158.4	159.1	159.9	160.7	163.0
52.5°	136.3	137.0	137.0	137.7	138.6	139.3	140.0	141.6	142.3	143.9	144.6
55°	119.5	119.5	121.0	121.8	121.8	121.8	123.3	123.3	124.9	125.6	127.2
57.5°	103.5	104.3	104.3	105.1	105.1	105.8	106.6	107.3	108.1	108.9	109.6
60°	88.3	88.3	88.3	89.1	89.8	90.6	89.8	91.4	91.4	92.9	93.6
62.5°	73.8	74.6	74.6	74.6	74.6	74.6	74.6	75.4	76.1	76.9	77.6
65°	60.1	60.1	60.1	59.4	60.1	59.4	60.1	60.9	60.9	61.7	62.4
67.5°	46.4	46.4	45.0	45.0	45.7	45.7	45.7	45.7	45.0	46.4	46.4
70°	33.5	32.7	32.0	31.3	31.3	30.4	30.4	29.7	29.7	29.7	29.7
72.5°	22.1	20.6	19.0	18.3	17.5	17.5	16.0	15.3	16.0	16.0	16.0
75°	11.4	9.9	9.1	8.4	7.6	7.6	6.9	6.9	6.9	6.9	6.9
77.5°	4.6	3.8	3.0	3.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	1.6	1.6	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: P593547

CATALOG NUMBER: HC810D010-HM80520950-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	509.4	509.4	509.4	509.4	509.4	509.4	509.4	509.4
2.5°	499.4	499.4	498.7	499.4	498.0	498.7	498.0	498.0
5°	488.0	486.6	486.6	486.6	485.7	485.7	485.0	485.0
7.5°	474.3	473.6	472.9	472.0	471.3	470.6	470.6	470.6
10°	460.6	459.2	459.2	458.3	456.9	456.0	456.0	456.0
12.5°	444.6	443.9	443.1	443.1	440.1	440.8	440.1	440.1
15°	429.4	428.6	428.6	426.3	424.8	424.8	424.8	424.1
17.5°	413.4	412.6	411.9	410.4	408.8	408.8	408.1	408.8
20°	396.7	395.9	394.4	394.4	393.7	392.8	391.4	392.1
22.5°	380.0	378.4	377.7	377.7	376.8	376.8	375.4	375.4
25°	362.4	361.7	360.8	361.7	360.1	360.1	358.6	358.6
27.5°	344.1	343.4	343.4	343.4	342.6	343.4	342.6	342.6
30°	325.9	325.9	325.1	325.1	325.9	325.1	325.9	326.6
32.5°	306.0	306.0	306.9	306.9	307.6	307.6	307.6	307.6
35°	285.5	287.0	287.0	287.8	288.6	289.3	289.3	290.0
37.5°	266.5	267.2	268.0	268.8	270.3	270.3	270.3	270.3
40°	245.9	246.7	248.2	247.5	250.5	251.2	250.5	250.5
42.5°	224.7	226.1	226.9	228.4	229.2	230.7	231.5	231.5
45°	204.8	205.5	207.1	208.7	209.4	211.7	211.7	211.7
47.5°	184.3	185.8	186.6	188.1	188.8	191.1	191.8	191.1
50°	164.4	166.0	167.6	167.6	169.8	170.6	172.1	172.8
52.5°	145.4	146.2	147.7	148.4	150.0	151.6	152.3	153.0
55°	127.2	127.9	129.5	129.5	131.7	132.5	134.0	134.0
57.5°	110.3	111.2	112.6	111.9	113.5	114.9	114.9	114.2
60°	94.4	94.4	94.4	95.9	96.6	97.5	98.2	98.2
62.5°	77.6	79.2	79.9	79.9	80.7	81.5	81.5	80.7
65°	62.4	63.9	64.7	64.7	65.5	65.5	65.5	66.2
67.5°	47.2	47.2	47.2	48.0	47.2	47.2	47.2	47.2
70°	29.7	29.7	29.7	29.7	29.0	29.7	29.7	30.4
72.5°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
75°	6.9	6.9	6.9	7.6	6.9	6.9	6.9	6.9
77.5°	3.0	2.3	3.0	3.0	2.3	2.3	2.3	2.3
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)