

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: P583727

Luminaire Tested: **HC810D010-HM80520830-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583727
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: HC810D010-HM80520830-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1053.4 lumens
Efficiency: N/A
Efficacy: 106.4 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

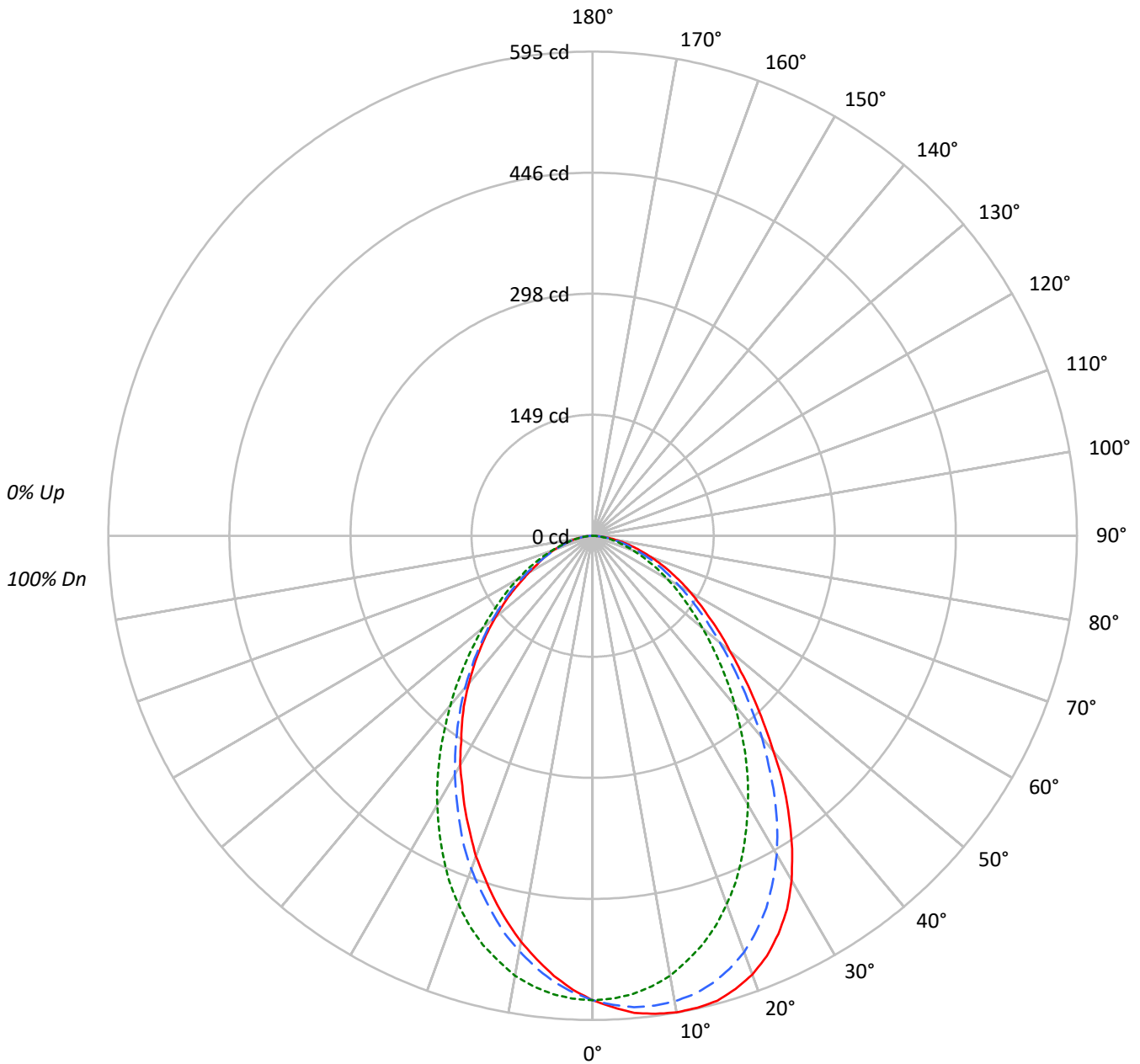
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	17598	17598	17598
5°	18220	17498	16805
10°	18621	17193	15860
15°	18886	16616	14810
20°	18829	15810	13750
25°	18366	14783	12620
30°	17401	13595	11583
35°	15833	12302	10525
40°	13908	10941	9508
45°	12123	9625	8478
50°	10554	8438	7469
55°	9408	7414	6494
60°	8548	6494	5538
65°	7683	5647	5027
70°	6834	4824	4544
75°	6005	4051	3884
80°	5079	3303	3445
85°	3821	2477	2724



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.5	5.1
10°-20°	147.3	14.0
20°-30°	204.5	19.4
30°-40°	211.4	20.1
40°-50°	177.0	16.8
50°-60°	128.5	12.2
60°-70°	81.1	7.7
70°-80°	40.2	3.8
80°-90°	10.0	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°	405.2	38.5
0°-40°	616.6	58.5
0°-60°	922.1	87.5
0°-90°	1053.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1053.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	571	571	571	571	571	
5°	589	582	565	550	543	56
15°	592	569	520	479	464	167
25°	540	505	434	387	371	247
35°	421	390	327	290	280	262
45°	278	258	221	199	194	215
55°	175	160	138	126	121	158
65°	105	92	77	68	69	105
75°	50	42	34	33	33	54
85°	11	8	7	8	8	13
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°	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7
2.5°	580.1	580.1	580.8	580.1	580.1	580.1	579.2	579.2	578.5	578.5	577.0
5°	588.6	587.1	588.6	587.1	587.1	587.1	586.2	584.7	583.9	582.4	581.6
7.5°	592.5	591.6	591.6	590.9	590.9	590.2	589.3	588.6	585.5	584.7	582.4
10°	594.7	594.0	594.0	593.2	591.6	591.6	590.2	589.3	585.5	583.9	580.8
12.5°	594.0	594.0	594.0	593.2	590.9	590.2	588.6	586.2	583.2	580.1	577.0
15°	591.6	591.6	590.2	589.3	587.1	585.5	584.7	580.8	577.7	573.8	569.3
17.5°	583.9	583.9	583.2	581.6	579.2	577.7	576.2	572.3	569.3	563.0	558.3
20°	573.8	573.1	572.3	570.0	567.7	566.9	564.6	559.2	555.3	550.6	544.4
22.5°	559.2	558.3	557.6	556.0	552.2	550.6	549.1	545.2	538.3	533.6	525.9
25°	539.8	539.8	538.3	536.0	532.0	530.4	528.2	524.3	518.1	511.1	505.0
27.5°	517.3	516.5	514.2	512.7	509.5	507.2	503.4	498.7	492.6	487.2	479.4
30°	488.7	488.7	487.2	484.8	480.9	479.4	476.2	470.8	464.7	457.7	452.3
32.5°	456.2	456.2	453.9	452.3	449.9	446.1	445.3	439.1	433.7	428.3	422.0
35°	420.6	421.3	419.7	416.6	412.8	412.8	411.2	405.8	399.7	394.1	389.6
37.5°	384.9	382.6	381.8	380.3	377.9	374.8	373.3	370.9	365.5	361.7	354.7
40°	345.5	346.2	344.6	343.1	342.3	339.9	339.2	335.4	331.5	326.8	323.7
42.5°	309.8	309.8	309.8	308.2	306.6	304.3	303.6	301.2	296.7	293.5	288.8
45°	278.0	275.7	275.7	274.9	274.2	272.6	270.3	268.8	265.6	263.4	257.9
47.5°	247.0	247.9	247.0	246.3	244.0	243.2	242.4	239.3	236.2	233.9	230.1
50°	220.0	221.5	220.0	220.0	218.4	217.6	216.1	213.7	211.4	207.6	203.7
52.5°	197.5	197.5	196.8	195.9	193.6	192.1	191.2	190.5	186.7	183.5	180.4
55°	175.0	175.9	175.9	173.4	172.7	171.2	170.3	168.0	166.5	161.9	159.5
57.5°	155.7	154.9	155.7	154.1	152.5	151.0	150.2	148.7	146.4	143.3	140.2
60°	138.6	137.0	137.0	136.3	134.7	134.0	132.5	130.1	127.8	124.6	122.4
62.5°	121.6	120.8	120.1	119.2	117.7	117.0	116.1	113.8	111.5	109.1	106.9
65°	105.3	105.3	104.6	103.0	102.2	101.4	100.7	99.2	96.0	94.5	92.2
67.5°	90.6	89.8	89.8	88.2	86.8	85.9	85.9	84.4	82.1	79.8	78.3
70°	75.8	76.7	75.8	75.1	73.6	73.6	72.0	71.3	68.2	67.4	65.0
72.5°	62.7	62.7	61.9	61.9	60.5	59.6	59.6	58.1	56.5	54.9	53.5
75°	50.4	50.4	50.4	49.5	48.8	47.2	47.2	46.5	45.0	43.4	41.8
77.5°	39.5	38.7	38.7	38.0	37.1	36.4	36.4	35.6	34.0	33.3	31.7
80°	28.6	27.9	27.9	27.9	26.3	27.2	26.3	25.6	24.8	24.0	23.2
82.5°	18.6	19.4	19.4	18.6	17.8	17.8	17.8	17.1	17.1	16.2	15.5
85°	10.8	10.8	10.8	10.8	10.1	10.1	10.1	9.3	9.3	9.3	8.5
87.5°	4.7	4.7	4.7	4.7	4.7	4.7	3.8	3.8	3.8	3.8	3.8
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°	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7
2.5°	577.0	575.4	574.7	573.8	573.8	573.1	572.3	570.7	570.7	569.3	568.4
5°	580.1	577.7	576.2	574.7	573.8	572.3	570.7	568.4	567.7	565.3	563.0
7.5°	580.8	577.0	575.4	572.3	570.7	569.3	566.1	563.7	560.7	558.3	555.3
10°	577.7	574.7	570.7	566.9	566.1	563.7	559.2	556.0	552.2	549.1	544.4
12.5°	573.1	568.4	564.6	559.9	557.6	555.3	550.6	545.9	540.5	535.1	530.4
15°	565.3	559.9	554.5	549.1	545.9	543.7	538.3	532.8	527.4	520.5	515.8
17.5°	553.8	547.5	542.1	535.1	532.0	529.7	522.7	516.5	509.5	502.6	498.0
20°	539.0	531.3	525.0	517.3	515.1	511.1	504.1	497.1	489.5	481.8	476.2
22.5°	519.6	511.9	505.0	497.1	493.3	489.5	482.5	473.9	466.3	460.0	454.6
25°	497.1	490.2	481.8	474.8	470.1	465.4	457.7	450.8	443.8	434.5	429.0
27.5°	472.4	463.9	457.7	448.3	443.8	440.7	432.1	422.9	416.6	408.1	401.9
30°	444.5	436.8	429.8	420.6	415.9	412.8	405.1	396.5	390.3	381.8	375.6
32.5°	415.1	406.6	398.1	391.9	386.4	383.3	374.8	369.4	361.7	354.7	347.7
35°	383.3	374.8	368.7	360.1	357.0	353.9	346.9	339.9	333.0	326.8	321.4
37.5°	349.3	343.1	336.1	329.9	327.5	324.5	316.0	309.8	304.3	298.2	293.5
40°	316.0	310.6	305.9	299.7	295.8	293.5	287.3	281.9	275.7	271.8	267.2
42.5°	285.7	279.6	274.9	270.3	266.4	264.1	258.7	254.8	250.1	246.3	240.9
45°	254.0	251.0	245.4	241.6	239.3	236.2	232.3	227.7	223.8	220.7	216.8
47.5°	226.1	223.1	219.1	214.6	213.0	210.6	206.7	203.7	200.6	197.5	193.6
50°	200.6	196.8	193.6	190.5	189.0	186.7	182.8	181.3	178.9	175.9	173.4
52.5°	177.3	174.3	171.2	167.3	166.5	164.9	162.6	159.5	157.2	155.7	154.1
55°	156.4	153.4	151.0	148.0	147.1	145.6	142.6	141.0	139.4	137.9	136.3
57.5°	137.9	134.7	131.6	130.1	128.6	127.1	126.2	123.9	122.4	121.6	120.1
60°	120.8	117.7	115.4	113.1	112.3	111.5	110.0	108.4	106.9	105.3	104.6
62.5°	104.6	101.4	99.9	98.3	96.8	96.8	95.2	93.8	92.2	91.4	89.8
65°	89.8	88.2	85.9	83.7	82.8	82.8	80.5	79.8	79.0	77.4	75.8
67.5°	75.8	74.4	72.0	71.3	70.4	69.7	68.9	67.4	65.9	65.0	63.5
70°	63.5	61.9	60.5	59.6	58.9	58.1	56.5	55.8	54.2	53.5	52.6
72.5°	51.1	50.4	48.8	48.0	47.2	46.5	45.7	45.0	43.4	42.6	41.8
75°	41.0	40.3	38.7	38.0	37.1	37.1	36.4	34.9	34.0	34.0	33.3
77.5°	31.0	30.2	29.4	28.6	27.9	27.9	27.2	26.3	25.6	25.6	24.8
80°	22.5	21.6	20.9	20.9	20.9	20.2	19.4	19.4	18.6	18.6	17.8
82.5°	14.7	14.7	13.9	13.9	13.9	13.2	13.2	12.4	12.4	12.4	12.4
85°	8.5	8.5	8.5	7.7	7.7	7.7	7.7	7.7	7.7	7.0	7.7
87.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.1	3.1	3.1
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°	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7
2.5°	567.7	566.9	565.3	565.3	563.7	563.7	563.0	562.3	561.5	560.7	559.9
5°	562.3	559.2	557.6	556.9	555.3	554.5	552.2	550.6	549.9	548.4	546.8
7.5°	552.2	549.1	545.9	545.2	544.4	541.4	539.0	536.7	535.1	533.6	532.0
10°	540.5	537.4	533.6	532.0	530.4	526.6	523.5	521.2	518.1	515.1	514.2
12.5°	526.6	522.0	517.3	515.8	513.5	509.5	506.5	502.6	500.3	496.4	495.7
15°	510.4	505.0	501.1	497.1	495.7	491.7	486.3	483.2	478.6	477.1	473.2
17.5°	491.0	485.6	480.2	478.6	476.2	470.8	465.4	461.6	456.9	454.6	452.3
20°	470.8	463.9	458.4	456.9	453.9	449.2	443.8	439.9	436.0	431.4	429.0
22.5°	447.6	439.9	435.2	431.4	430.6	425.1	419.0	415.9	412.8	408.9	405.8
25°	422.0	415.1	409.6	406.6	405.1	400.4	395.7	391.9	387.2	384.9	381.0
27.5°	395.7	391.1	384.2	381.0	378.8	374.8	369.4	367.1	362.4	359.4	357.0
30°	370.2	363.2	359.4	355.4	353.1	349.3	344.6	342.3	338.5	335.4	333.0
32.5°	342.3	337.6	332.2	330.7	327.5	323.7	320.6	316.7	313.6	310.6	309.8
35°	316.7	310.6	305.2	303.6	301.2	297.4	295.8	293.5	289.7	288.8	285.7
37.5°	288.8	285.7	279.6	277.3	276.5	273.3	270.3	268.8	266.4	264.1	263.4
40°	262.5	258.7	255.5	253.3	251.7	249.4	246.3	245.4	244.0	240.9	240.0
42.5°	237.8	233.9	230.8	230.1	227.7	225.4	223.8	221.5	220.7	220.0	218.4
45°	213.7	211.4	208.3	207.6	206.7	203.7	202.2	200.6	199.1	198.2	196.8
47.5°	192.1	189.8	187.4	186.7	185.1	184.3	182.0	181.3	178.9	178.1	177.3
50°	171.2	169.6	168.0	167.3	165.8	164.9	163.4	161.9	160.3	159.5	158.8
52.5°	152.5	151.0	149.4	148.7	148.0	146.4	144.8	143.3	142.6	141.7	141.0
55°	134.7	133.2	132.5	131.6	130.9	130.1	127.8	127.1	126.2	125.5	123.9
57.5°	118.5	117.0	115.4	115.4	114.7	113.8	112.3	110.7	110.7	109.1	107.7
60°	103.7	102.2	100.7	99.9	99.2	97.6	96.8	96.0	95.2	94.5	92.9
62.5°	88.2	87.5	85.9	85.9	84.4	83.7	82.8	82.1	81.4	79.8	79.0
65°	75.1	74.4	72.8	72.0	72.0	71.3	69.7	68.9	68.2	68.2	67.4
67.5°	62.7	61.9	60.5	59.6	59.6	58.9	58.1	58.1	57.3	56.5	57.3
70°	51.9	50.4	50.4	49.5	49.5	48.8	48.0	48.0	48.0	48.8	48.8
72.5°	41.0	40.3	39.5	39.5	39.5	39.5	38.7	38.7	39.5	40.3	40.3
75°	32.6	31.7	31.7	31.7	31.0	31.0	31.7	31.7	32.6	32.6	32.6
77.5°	24.0	24.0	24.0	24.0	24.0	24.0	24.8	24.8	25.6	25.6	25.6
80°	17.8	17.8	17.8	17.8	17.8	18.6	18.6	18.6	18.6	18.6	19.4
82.5°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	13.2	13.2	13.2	13.2
85°	7.0	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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: P583727

CATALOG NUMBER: HC810D010-HM80520830-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	570.7	570.7	570.7	570.7	570.7	570.7	570.7	570.7
2.5°	559.2	559.2	559.2	559.9	558.3	558.3	558.3	558.3
5°	545.9	545.2	544.4	545.2	543.7	543.7	542.9	542.9
7.5°	529.7	529.0	528.2	528.2	526.6	526.6	525.9	525.0
10°	511.9	510.4	511.1	509.5	508.8	508.1	507.2	506.5
12.5°	492.6	491.0	490.2	488.7	487.2	486.3	487.2	485.6
15°	471.7	469.3	468.5	467.0	465.4	464.7	464.7	463.9
17.5°	448.3	446.9	446.1	444.5	443.8	442.2	441.4	440.7
20°	426.7	422.9	423.6	422.0	421.3	418.2	418.2	419.0
22.5°	402.7	400.4	398.8	397.3	396.5	395.0	395.0	394.1
25°	378.8	376.3	375.6	374.1	373.3	371.8	370.9	370.9
27.5°	355.4	352.4	352.4	350.9	349.3	348.5	347.7	346.9
30°	330.7	328.4	327.5	327.5	326.8	326.8	324.5	325.3
32.5°	307.5	305.9	305.2	303.6	303.6	302.8	302.8	300.5
35°	284.3	281.9	282.7	281.1	280.3	279.6	280.3	279.6
37.5°	261.8	260.2	260.2	258.7	258.7	257.9	257.1	258.7
40°	239.3	238.5	237.8	237.0	237.8	237.0	235.5	236.2
42.5°	216.8	216.8	216.1	216.1	215.3	215.3	215.3	215.3
45°	196.8	195.9	195.9	195.2	195.2	195.2	195.2	194.4
47.5°	176.6	175.9	175.9	175.9	175.0	175.0	174.3	175.0
50°	157.2	157.2	156.4	156.4	157.2	156.4	155.7	155.7
52.5°	139.4	139.4	138.6	138.6	137.9	137.0	137.9	137.9
55°	123.1	122.4	121.6	121.6	120.8	120.1	120.1	120.8
57.5°	107.7	106.9	106.1	106.1	104.6	103.7	103.7	103.7
60°	92.9	91.4	91.4	90.6	90.6	89.8	89.8	89.8
62.5°	79.0	78.3	78.3	78.3	78.3	77.4	77.4	77.4
65°	67.4	67.4	67.4	68.2	68.2	68.9	68.9	68.9
67.5°	58.1	58.9	58.9	58.9	59.6	59.6	59.6	58.9
70°	49.5	49.5	49.5	50.4	50.4	50.4	50.4	50.4
72.5°	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
75°	32.6	33.3	33.3	33.3	32.6	33.3	33.3	32.6
77.5°	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
80°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
82.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
85°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)