

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: P593530

Luminaire Tested: **HC810D010-HM80520850-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593530
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-HM80520850-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1078.7 lumens
Efficiency: N/A
Efficacy: 109.0 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

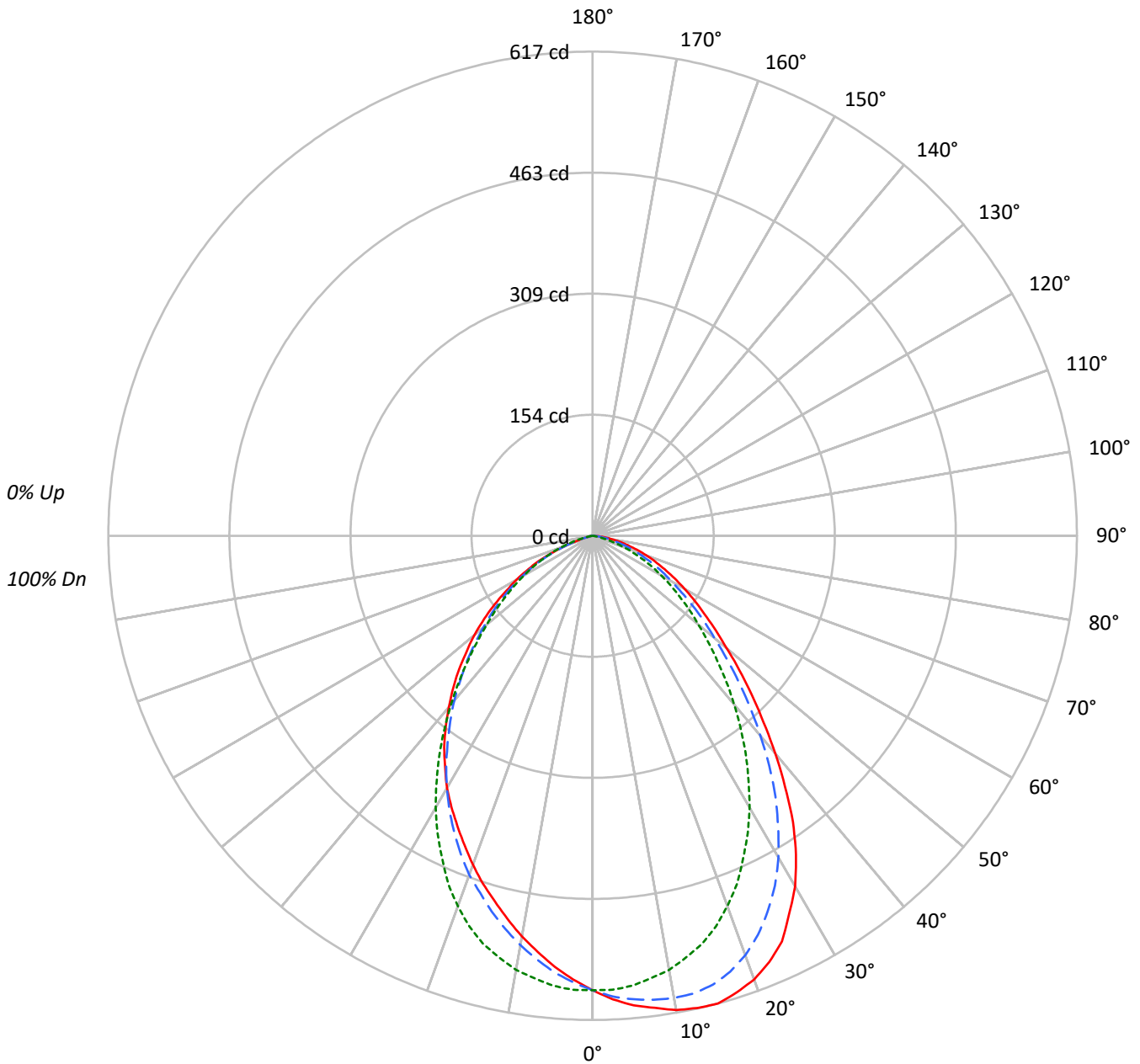
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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°	17857	17857	17857
5°	18597	17817	17068
10°	19216	17591	16235
15°	19704	17188	15391
20°	19742	16477	14629
25°	19411	15433	13872
30°	18370	14239	13221
35°	16752	12807	12415
40°	14564	11287	11464
45°	12498	9777	10492
50°	10674	8429	9427
55°	9349	7258	8188
60°	8326	6192	6889
65°	7391	5049	5502
70°	6555	3751	3120
75°	5469	1966	929
80°	4315	622	142
85°	3078	283	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.6	5.1
10°-20°	152.9	14.2
20°-30°	216.5	20.1
30°-40°	226.5	21.0
40°-50°	188.9	17.5
50°-60°	133.9	12.4
60°-70°	77.2	7.2
70°-80°	24.8	2.3
80°-90°	3.4	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°	424.0	39.3
0°-40°	650.4	60.3
0°-60°	973.3	90.2
0°-90°	1078.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1078.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	579	579	579	579	579	
5°	601	593	576	558	551	58
15°	617	592	538	496	482	174
25°	570	528	454	417	408	260
35°	445	406	340	322	330	276
45°	287	263	224	227	241	222
55°	174	156	135	142	152	157
65°	101	85	69	69	75	101
75°	46	34	16	8	8	50
85°	9	4	1	0	0	11
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°	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1
2.5°	591.3	590.3	589.5	590.3	589.5	590.3	589.5	589.5	588.6	587.8	587.8
5°	600.8	599.9	599.9	599.9	599.0	598.1	598.1	597.3	595.6	594.6	592.9
7.5°	606.8	607.6	607.6	607.6	605.9	605.9	604.2	602.4	600.8	599.0	596.4
10°	613.7	613.7	612.9	611.9	610.3	609.4	608.6	606.8	604.2	600.8	598.1
12.5°	616.3	616.3	615.4	613.7	612.9	611.9	611.1	608.6	605.1	600.8	597.3
15°	617.2	615.4	614.6	613.7	611.9	609.4	609.4	605.9	601.6	596.4	592.1
17.5°	610.3	611.1	609.4	607.6	605.1	603.3	600.8	598.1	592.9	586.9	582.6
20°	601.6	600.8	599.9	597.3	593.8	592.9	590.3	586.0	581.6	574.8	568.7
22.5°	587.8	586.9	585.1	583.5	580.0	578.3	575.6	570.5	564.3	557.5	550.5
25°	570.5	568.7	566.1	562.7	560.0	558.3	554.8	549.7	542.7	534.9	528.0
27.5°	542.7	545.3	543.7	538.4	535.9	532.4	531.5	524.6	518.5	510.7	502.9
30°	515.9	515.9	513.3	510.7	506.4	503.8	500.3	495.1	489.1	479.6	473.5
32.5°	482.1	481.3	477.8	477.0	473.5	468.3	467.5	460.5	454.5	447.5	439.7
35°	445.0	443.2	439.7	437.2	435.4	432.8	430.2	424.2	418.1	411.2	405.9
37.5°	402.5	402.5	401.6	397.3	395.6	393.9	391.3	385.2	381.8	374.8	369.6
40°	361.8	361.0	358.3	357.5	355.8	353.1	351.5	348.0	342.8	337.6	332.4
42.5°	322.0	322.9	319.4	320.3	316.8	315.0	314.2	309.0	306.4	301.2	296.9
45°	286.6	285.6	283.9	283.1	281.3	279.6	277.9	275.3	270.9	265.8	263.1
47.5°	253.6	251.0	251.0	250.1	249.3	245.8	245.0	242.3	239.8	234.6	231.1
50°	222.5	222.5	222.5	221.6	219.0	218.2	216.4	213.8	211.2	207.7	202.5
52.5°	197.4	197.4	197.4	196.5	193.0	192.2	191.4	187.9	184.4	181.7	178.3
55°	173.9	174.9	173.9	172.2	169.6	169.6	167.1	165.3	161.9	159.3	155.8
57.5°	154.1	154.1	152.3	151.5	149.8	148.9	147.1	145.4	141.1	138.5	134.1
60°	135.0	134.1	134.1	132.5	130.7	129.0	128.1	125.5	123.8	119.5	116.0
62.5°	117.7	117.7	116.0	116.0	112.5	112.5	111.7	109.0	106.5	102.2	100.4
65°	101.3	101.3	100.4	99.5	97.0	96.0	95.2	92.7	90.0	87.4	84.9
67.5°	86.5	86.5	84.9	84.0	82.2	81.4	79.7	77.9	75.4	72.7	70.1
70°	72.7	71.9	71.0	70.1	68.4	67.6	65.7	64.1	61.4	59.7	57.1
72.5°	58.9	58.9	57.9	56.3	55.4	54.6	53.6	51.9	49.3	46.8	45.0
75°	45.9	45.9	45.9	44.1	42.4	41.6	41.6	39.8	38.1	35.5	33.8
77.5°	35.5	34.6	33.8	33.8	32.0	31.1	30.3	29.4	26.8	26.0	24.3
80°	24.3	25.1	24.3	23.3	22.5	21.6	21.6	20.0	19.0	17.3	15.6
82.5°	16.5	15.6	15.6	14.7	14.7	13.8	13.8	12.1	11.3	10.3	9.5
85°	8.7	8.7	7.8	7.8	7.8	7.0	7.0	6.0	6.0	5.2	4.3
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.7	1.7	1.7
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°	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1
2.5°	586.9	585.1	584.3	584.3	583.5	582.6	581.6	580.8	579.1	579.1	577.3
5°	591.3	589.5	588.6	586.0	584.3	584.3	580.8	580.0	577.3	575.6	574.0
7.5°	594.6	591.3	588.6	586.0	584.3	582.6	579.1	575.6	572.2	568.7	567.0
10°	594.6	591.3	586.9	582.6	580.8	579.1	574.8	569.6	565.3	561.8	557.5
12.5°	592.9	587.8	582.6	579.1	575.6	573.0	567.8	562.7	557.5	550.5	547.0
15°	587.8	580.8	575.6	569.6	567.0	562.7	558.3	550.5	544.5	538.4	534.0
17.5°	577.3	568.7	562.7	556.6	552.3	549.7	542.7	535.9	528.9	521.9	516.7
20°	561.8	554.0	547.0	539.2	535.9	532.4	523.7	516.7	509.9	502.1	496.9
22.5°	542.7	534.9	525.4	519.4	514.2	509.9	502.1	494.3	487.3	480.4	473.5
25°	519.4	511.6	502.9	493.4	489.9	485.6	477.0	469.1	461.3	453.6	447.5
27.5°	494.3	483.9	477.0	466.6	463.1	458.8	449.3	440.7	433.7	427.7	420.7
30°	464.0	456.2	446.7	437.2	433.7	429.4	421.5	413.7	406.9	399.9	392.9
32.5°	431.0	423.3	413.7	406.9	401.6	398.2	390.4	383.4	376.6	369.6	363.6
35°	396.4	387.8	380.9	373.9	369.6	365.3	357.5	351.5	346.3	340.2	334.2
37.5°	361.0	355.0	348.0	340.2	335.8	332.4	326.3	319.4	315.0	309.9	305.5
40°	326.3	319.4	313.4	306.4	303.0	300.4	294.2	289.1	284.8	280.4	277.9
42.5°	290.9	284.8	278.7	274.4	271.8	269.2	264.9	258.8	256.3	251.9	249.3
45°	257.9	252.8	248.5	242.3	240.6	239.0	233.7	229.3	226.8	224.2	222.5
47.5°	226.8	223.3	218.2	214.7	212.0	210.4	206.9	203.4	200.9	199.1	197.4
50°	200.0	195.7	192.2	188.7	187.0	184.4	180.9	179.2	177.4	175.7	175.7
52.5°	174.9	170.6	167.1	164.4	162.8	160.9	158.4	157.6	155.8	155.8	154.9
55°	151.5	148.9	145.4	142.0	141.1	140.3	138.5	136.8	135.9	135.0	135.9
57.5°	131.6	129.0	125.5	123.0	122.0	121.2	120.3	118.6	117.7	117.7	117.7
60°	113.3	110.8	108.2	105.7	105.7	103.9	103.0	102.2	101.3	100.4	100.4
62.5°	97.0	94.4	91.7	90.0	89.2	88.3	86.5	85.7	84.9	84.9	84.0
65°	82.2	78.7	77.9	75.4	74.4	73.6	72.7	71.0	70.1	69.2	68.4
67.5°	67.6	65.7	63.2	61.4	60.6	59.7	58.9	57.1	56.3	55.4	53.6
70°	54.6	52.8	51.1	49.3	48.4	47.6	45.9	44.1	43.3	41.6	38.9
72.5°	42.4	40.6	38.9	37.3	36.3	35.5	33.8	32.0	30.3	28.6	26.8
75°	32.0	30.3	27.6	26.0	25.1	25.1	22.5	20.8	19.0	16.5	14.7
77.5°	22.5	20.0	19.0	17.3	16.5	14.7	13.0	11.3	9.5	8.7	7.0
80°	14.7	13.0	11.3	10.3	9.5	8.7	7.8	6.0	4.3	3.5	2.6
82.5°	8.7	7.8	7.0	6.0	5.2	4.3	3.5	3.5	2.6	1.7	0.8
85°	4.3	3.5	2.6	2.6	1.7	1.7	1.7	0.8	0.8	0.8	0.8
87.5°	1.7	0.8	0.8	0.8	0.8	0.8	0.8	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°	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1
2.5°	576.5	575.6	574.8	574.0	574.0	572.2	572.2	571.3	569.6	568.7	568.7
5°	571.3	568.7	567.0	566.1	565.3	562.7	561.8	560.0	558.3	556.6	555.7
7.5°	563.5	559.2	557.5	556.6	554.0	551.4	549.7	547.0	544.5	541.9	541.0
10°	554.0	549.7	545.3	543.7	541.0	539.2	535.9	532.4	529.7	527.2	524.6
12.5°	541.9	536.7	532.4	530.6	528.0	524.6	519.4	517.6	513.3	511.6	508.1
15°	528.0	521.9	517.6	515.1	512.4	507.2	503.8	500.3	495.9	494.3	490.8
17.5°	510.7	503.8	499.4	496.9	495.1	490.8	485.6	481.3	477.0	475.3	472.6
20°	489.9	485.6	479.6	477.0	475.3	470.0	464.8	463.1	459.6	456.2	453.6
22.5°	466.6	462.3	456.2	453.6	452.7	448.3	444.0	441.5	438.9	436.3	433.7
25°	442.3	437.2	432.0	430.2	428.5	425.0	421.5	419.9	417.2	415.5	413.7
27.5°	416.4	411.2	406.9	404.2	402.5	399.9	398.2	396.4	394.7	392.9	392.1
30°	388.6	383.4	380.0	378.3	376.6	375.6	373.1	372.3	371.3	369.6	370.5
32.5°	361.0	356.6	353.1	350.6	350.6	348.8	348.0	348.0	347.1	347.1	347.1
35°	330.7	328.0	325.5	324.7	323.7	322.9	322.0	322.9	322.0	322.9	323.7
37.5°	303.0	300.4	298.6	297.7	296.9	297.7	296.9	296.9	297.7	299.5	300.4
40°	274.4	272.6	270.9	271.8	270.9	270.9	270.9	273.6	274.4	275.3	276.1
42.5°	247.6	245.8	245.0	245.0	245.8	245.0	246.7	247.6	249.3	251.9	253.6
45°	221.6	220.7	220.7	221.6	220.7	222.5	222.5	224.2	226.8	228.5	230.3
47.5°	197.4	197.4	197.4	198.2	198.2	199.1	200.9	201.7	203.4	205.2	206.9
50°	174.9	175.7	176.6	176.6	176.6	178.3	180.1	180.9	181.7	182.7	185.2
52.5°	154.9	155.8	155.8	156.6	157.6	158.4	159.3	160.9	161.9	163.6	164.4
55°	135.9	135.9	137.6	138.5	138.5	138.5	140.3	140.3	142.0	142.8	144.6
57.5°	117.7	118.6	118.6	119.5	119.5	120.3	121.2	122.0	123.0	123.8	124.6
60°	100.4	100.4	100.4	101.3	102.2	103.0	102.2	103.9	103.9	105.7	106.5
62.5°	84.0	84.9	84.9	84.9	84.9	84.9	84.9	85.7	86.5	87.4	88.3
65°	68.4	68.4	68.4	67.6	68.4	67.6	68.4	69.2	69.2	70.1	71.0
67.5°	52.8	52.8	51.1	51.1	51.9	51.9	51.9	51.9	51.1	52.8	52.8
70°	38.1	37.3	36.3	35.5	35.5	34.6	34.6	33.8	33.8	33.8	33.8
72.5°	25.1	23.3	21.6	20.8	20.0	20.0	18.2	17.3	18.2	18.2	18.2
75°	13.0	11.3	10.3	9.5	8.7	8.7	7.8	7.8	7.8	7.8	7.8
77.5°	5.2	4.3	3.5	3.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	1.7	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.8	0.0	0.0	0.8	0.0	0.8	0.8	0.8	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



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CATALOG NUMBER: HC810D010-HM80520850-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	579.1	579.1	579.1	579.1	579.1	579.1	579.1	579.1
2.5°	567.8	567.8	567.0	567.8	566.1	567.0	566.1	566.1
5°	554.8	553.2	553.2	553.2	552.3	552.3	551.4	551.4
7.5°	539.2	538.4	537.5	536.7	535.9	534.9	534.9	534.9
10°	523.7	521.9	521.9	521.1	519.4	518.5	518.5	518.5
12.5°	505.6	504.6	503.8	503.8	500.3	501.2	500.3	500.3
15°	488.3	487.3	487.3	484.8	483.0	483.0	483.0	482.1
17.5°	470.0	469.1	468.3	466.6	464.8	464.8	464.0	464.8
20°	451.0	450.1	448.3	448.3	447.5	446.7	445.0	445.8
22.5°	432.0	430.2	429.4	429.4	428.5	428.5	426.7	426.7
25°	412.0	411.2	410.2	411.2	409.4	409.4	407.7	407.7
27.5°	391.3	390.4	390.4	390.4	389.6	390.4	389.6	389.6
30°	370.5	370.5	369.6	369.6	370.5	369.6	370.5	371.3
32.5°	348.0	348.0	348.8	348.8	349.7	349.7	349.7	349.7
35°	324.7	326.3	326.3	327.2	328.0	329.0	329.0	329.8
37.5°	303.0	303.9	304.7	305.5	307.4	307.4	307.4	307.4
40°	279.6	280.4	282.2	281.3	284.8	285.6	284.8	284.8
42.5°	255.3	257.1	257.9	259.6	260.6	262.3	263.1	263.1
45°	232.8	233.7	235.5	237.2	238.0	240.6	240.6	240.6
47.5°	209.5	211.2	212.0	213.8	214.7	217.3	218.2	217.3
50°	187.0	188.7	190.4	190.4	193.0	193.9	195.7	196.5
52.5°	165.3	166.2	167.9	168.8	170.6	172.2	173.1	173.9
55°	144.6	145.4	147.1	147.1	149.8	150.6	152.3	152.3
57.5°	125.5	126.3	128.1	127.3	129.0	130.7	130.7	129.8
60°	107.3	107.3	107.3	109.0	110.0	110.8	111.7	111.7
62.5°	88.3	90.0	90.9	90.9	91.7	92.7	92.7	91.7
65°	71.0	72.7	73.6	73.6	74.4	74.4	74.4	75.4
67.5°	53.6	53.6	53.6	54.6	53.6	53.6	53.6	53.6
70°	33.8	33.8	33.8	33.8	32.9	33.8	33.8	34.6
72.5°	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
75°	7.8	7.8	7.8	8.7	7.8	7.8	7.8	7.8
77.5°	3.5	2.6	3.5	3.5	2.6	2.6	2.6	2.6
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.0	0.8	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)