

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: P583744

Luminaire Tested: **HC810D010-HM80520835-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583744
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-HM80520835-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1095.9 lumens
Efficiency: N/A
Efficacy: 110.7 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

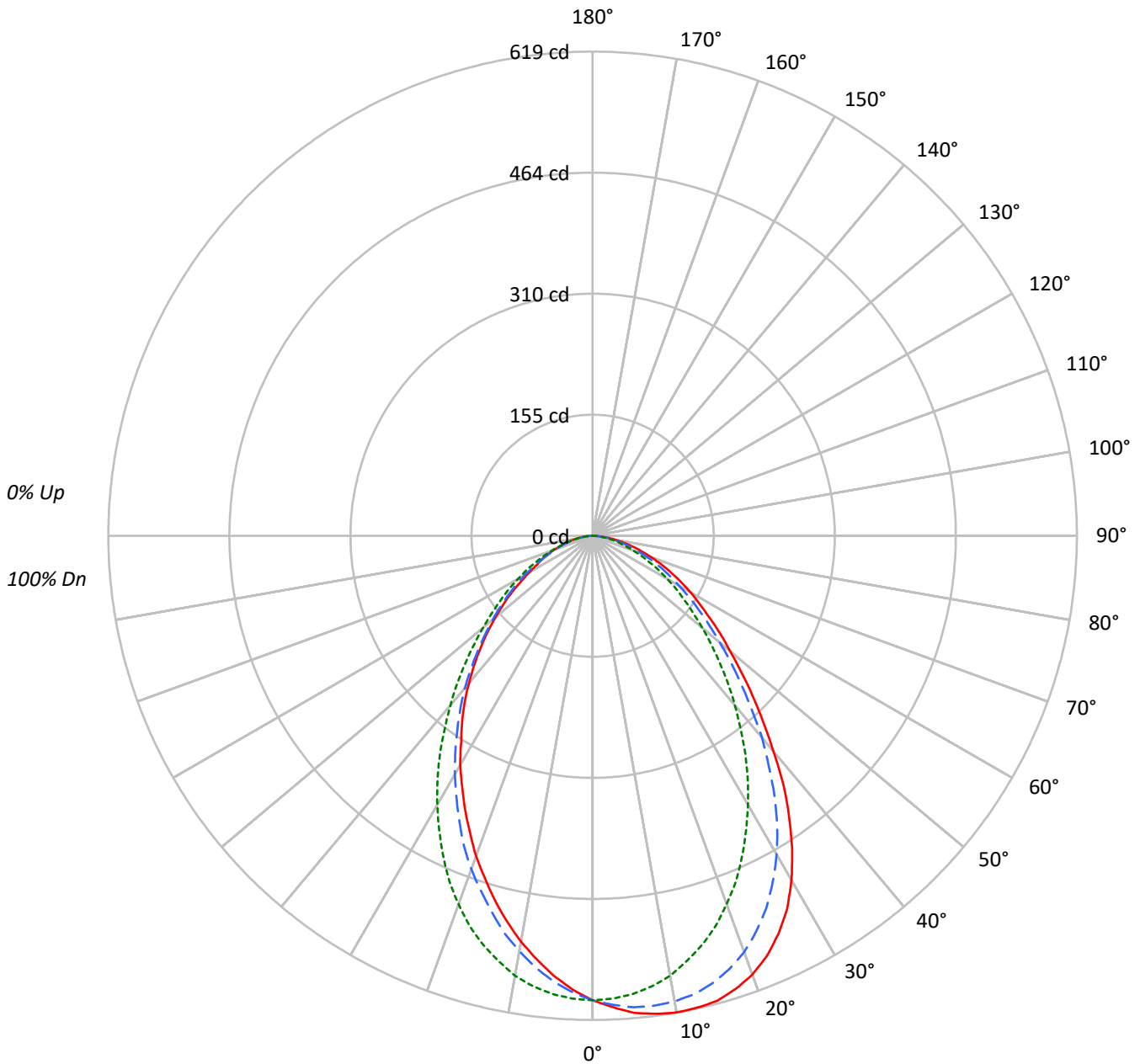
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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			100
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87			87
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76			76
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66			66
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58			58
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51			51
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46			46
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41			41
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38			38
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34			34
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	18311	18311	18311
5°	18953	18204	17483
10°	19376	17885	16501
15°	19649	17284	15407
20°	19591	16444	14301
25°	19108	15379	13133
30°	18099	14139	12049
35°	16469	12799	10951
40°	14463	11384	9890
45°	12612	10013	8818
50°	10981	8774	7767
55°	9790	7709	6758
60°	8893	6759	5766
65°	7997	5874	5239
70°	7123	5004	4724
75°	6243	4230	4039
80°	5292	3445	3587
85°	3998	2547	2866



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.6	5.1
10°-20°	153.2	14.0
20°-30°	212.7	19.4
30°-40°	219.9	20.1
40°-50°	184.1	16.8
50°-60°	133.7	12.2
60°-70°	84.4	7.7
70°-80°	41.8	3.8
80°-90°	10.4	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°	421.6	38.5
0°-40°	641.5	58.5
0°-60°	959.3	87.5
0°-90°	1095.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1095.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	594	594	594	594	594	
5°	612	605	588	572	565	59
15°	616	592	541	498	483	173
25°	562	525	452	403	386	257
35°	438	405	340	301	291	272
45°	289	268	230	207	202	224
55°	182	166	143	131	126	164
65°	110	96	80	71	72	109
75°	52	44	36	34	34	56
85°	11	9	7	8	8	14
90°	0	0	0	0	0	



TEST NUMBER: P583744

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8
2.5°	603.4	603.4	604.2	603.4	603.4	603.4	602.7	602.7	601.8	601.8	600.3
5°	612.3	610.7	612.3	610.7	610.7	610.7	609.9	608.3	607.5	605.9	605.1
7.5°	616.4	615.5	615.5	614.7	614.7	614.0	613.1	612.3	609.1	608.3	605.9
10°	618.8	617.9	617.9	617.1	615.5	615.5	614.0	613.1	609.1	607.5	604.2
12.5°	617.9	617.9	617.9	617.1	614.7	614.0	612.3	609.9	606.6	603.4	600.3
15°	615.5	615.5	614.0	613.1	610.7	609.1	608.3	604.2	601.0	597.0	592.2
17.5°	607.5	607.5	606.6	605.1	602.7	601.0	599.4	595.4	592.2	585.7	580.9
20°	597.0	596.2	595.4	592.9	590.5	589.7	587.3	581.6	577.7	572.9	566.4
22.5°	581.6	580.9	580.1	578.5	574.4	572.9	571.2	567.2	559.9	555.1	547.0
25°	561.6	561.6	559.9	557.5	553.5	551.8	549.4	545.5	539.0	531.8	525.3
27.5°	538.1	537.4	535.0	533.3	530.1	527.7	523.7	518.9	512.4	506.8	498.7
30°	508.3	508.3	506.8	504.4	500.3	498.7	495.5	489.8	483.4	476.1	470.5
32.5°	474.5	474.5	472.1	470.5	468.1	464.1	463.3	456.8	451.2	445.6	439.1
35°	437.5	438.2	436.7	433.4	429.5	429.5	427.8	422.1	415.8	410.1	405.3
37.5°	400.4	398.0	397.1	395.6	393.2	389.9	388.4	386.0	380.3	376.2	369.0
40°	359.3	360.1	358.6	356.9	356.2	353.7	352.9	348.8	344.9	340.0	336.8
42.5°	322.3	322.3	322.3	320.7	319.0	316.6	315.8	313.4	308.6	305.3	300.5
45°	289.2	286.8	286.8	286.0	285.2	283.6	281.1	279.6	276.3	273.9	268.3
47.5°	257.0	257.8	257.0	256.1	253.7	253.0	252.2	248.9	245.7	243.3	239.3
50°	228.9	230.4	228.9	228.9	227.2	226.3	224.8	222.4	220.0	215.9	211.9
52.5°	205.4	205.4	204.7	203.9	201.5	199.8	199.1	198.2	194.1	191.0	187.8
55°	182.1	182.9	182.9	180.4	179.7	178.0	177.3	174.9	173.2	168.4	166.0
57.5°	161.9	161.2	161.9	160.3	158.7	157.1	156.3	154.7	152.3	149.0	145.8
60°	144.2	142.6	142.6	141.8	140.2	139.4	137.7	135.3	132.9	129.7	127.3
62.5°	126.5	125.7	124.9	124.0	122.5	121.6	120.8	118.4	116.0	113.6	111.2
65°	109.6	109.6	108.8	107.1	106.4	105.5	104.7	103.1	99.9	98.3	95.9
67.5°	94.2	93.5	93.5	91.8	90.3	89.4	89.4	87.9	85.3	82.9	81.4
70°	79.0	79.8	79.0	78.1	76.6	76.6	74.9	74.2	70.9	70.1	67.7
72.5°	65.3	65.3	64.4	64.4	62.9	62.0	62.0	60.5	58.8	57.2	55.5
75°	52.4	52.4	52.4	51.6	50.7	49.2	49.2	48.3	46.8	45.1	43.5
77.5°	41.1	40.3	40.3	39.4	38.7	37.9	37.9	37.0	35.5	34.6	33.1
80°	29.8	29.0	29.0	29.0	27.4	28.2	27.4	26.6	25.7	25.0	24.2
82.5°	19.4	20.2	20.2	19.4	18.5	18.5	18.5	17.7	17.7	16.9	16.1
85°	11.3	11.3	11.3	11.3	10.5	10.5	10.5	9.6	9.6	9.6	8.9
87.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.1	4.1	4.1	4.1	4.1
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8
2.5°	600.3	598.6	597.8	597.0	597.0	596.2	595.4	593.8	593.8	592.2	591.4
5°	603.4	601.0	599.4	597.8	597.0	595.4	593.8	591.4	590.5	588.1	585.7
7.5°	604.2	600.3	598.6	595.4	593.8	592.2	589.0	586.6	583.3	580.9	577.7
10°	601.0	597.8	593.8	589.7	589.0	586.6	581.6	578.5	574.4	571.2	566.4
12.5°	596.2	591.4	587.3	582.5	580.1	577.7	572.9	567.9	562.4	556.8	551.8
15°	588.1	582.5	576.8	571.2	567.9	565.5	559.9	554.4	548.7	541.4	536.6
17.5°	576.1	569.6	564.0	556.8	553.5	551.1	543.8	537.4	530.1	522.9	518.1
20°	560.7	552.7	546.3	538.1	535.7	531.8	524.6	517.2	509.2	501.1	495.5
22.5°	540.7	532.6	525.3	517.2	513.3	509.2	502.0	493.1	485.0	478.5	473.0
25°	517.2	510.0	501.1	493.9	489.1	484.2	476.1	468.9	461.7	452.0	446.3
27.5°	491.5	482.6	476.1	466.5	461.7	458.4	449.5	439.9	433.4	424.5	418.2
30°	462.4	454.4	447.1	437.5	432.6	429.5	421.4	412.5	406.0	397.1	390.8
32.5°	431.9	423.0	414.1	407.7	402.1	398.8	389.9	384.3	376.2	369.0	361.8
35°	398.8	389.9	383.6	374.7	371.4	368.2	361.0	353.7	346.4	340.0	334.4
37.5°	363.4	356.9	349.7	343.2	340.8	337.5	328.7	322.3	316.6	310.2	305.3
40°	328.7	323.1	318.3	311.8	307.7	305.3	298.9	293.3	286.8	282.8	277.9
42.5°	297.3	290.9	286.0	281.1	277.2	274.8	269.1	265.0	260.2	256.1	250.6
45°	264.3	261.1	255.4	251.3	248.9	245.7	241.7	236.9	232.8	229.6	225.6
47.5°	235.2	232.0	228.0	223.2	221.5	219.1	215.2	211.9	208.7	205.4	201.5
50°	208.7	204.7	201.5	198.2	196.5	194.1	190.2	188.5	186.1	182.9	180.4
52.5°	184.5	181.3	178.0	174.0	173.2	171.6	169.2	166.0	163.6	161.9	160.3
55°	162.8	159.5	157.1	153.9	153.1	151.5	148.2	146.6	145.1	143.4	141.8
57.5°	143.4	140.2	136.9	135.3	133.8	132.1	131.4	128.9	127.3	126.5	124.9
60°	125.7	122.5	120.1	117.7	116.8	116.0	114.4	112.7	111.2	109.6	108.8
62.5°	108.8	105.5	104.0	102.3	100.7	100.7	99.0	97.5	95.9	95.1	93.5
65°	93.5	91.8	89.4	87.0	86.2	86.2	83.8	82.9	82.2	80.5	79.0
67.5°	79.0	77.3	74.9	74.2	73.3	72.5	71.8	70.1	68.5	67.7	66.1
70°	66.1	64.4	62.9	62.0	61.2	60.5	58.8	58.1	56.4	55.5	54.8
72.5°	53.1	52.4	50.7	50.0	49.2	48.3	47.5	46.8	45.1	44.4	43.5
75°	42.7	41.9	40.3	39.4	38.7	38.7	37.9	36.3	35.5	35.5	34.6
77.5°	32.2	31.4	30.7	29.8	29.0	29.0	28.2	27.4	26.6	26.6	25.7
80°	23.3	22.6	21.8	21.8	21.8	20.9	20.2	20.2	19.4	19.4	18.5
82.5°	15.3	15.3	14.5	14.5	14.5	13.7	13.7	12.9	12.9	12.9	12.9
85°	8.9	8.9	8.9	8.1	8.1	8.1	8.1	8.1	8.1	7.2	8.1
87.5°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.2	3.2	3.2
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°	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8
2.5°	590.5	589.7	588.1	588.1	586.6	586.6	585.7	584.9	584.2	583.3	582.5
5°	584.9	581.6	580.1	579.2	577.7	576.8	574.4	572.9	572.0	570.5	568.8
7.5°	574.4	571.2	567.9	567.2	566.4	563.1	560.7	558.3	556.8	555.1	553.5
10°	562.4	559.2	555.1	553.5	551.8	547.9	544.6	542.2	539.0	535.7	535.0
12.5°	547.9	543.1	538.1	536.6	534.2	530.1	527.0	522.9	520.5	516.4	515.7
15°	530.9	525.3	521.3	517.2	515.7	511.6	505.9	502.8	497.9	496.3	492.2
17.5°	510.8	505.2	499.6	497.9	495.5	489.8	484.2	480.2	475.4	473.0	470.5
20°	489.8	482.6	477.0	475.4	472.1	467.3	461.7	457.6	453.6	448.7	446.3
22.5°	465.7	457.6	452.8	448.7	448.0	442.3	435.8	432.6	429.5	425.4	422.1
25°	439.1	431.9	426.2	423.0	421.4	416.5	411.7	407.7	402.8	400.4	396.4
27.5°	411.7	406.9	399.7	396.4	394.0	389.9	384.3	381.9	377.1	373.8	371.4
30°	385.1	377.9	373.8	369.9	367.3	363.4	358.6	356.2	352.1	348.8	346.4
32.5°	356.2	351.2	345.7	344.0	340.8	336.8	333.6	329.5	326.3	323.1	322.3
35°	329.5	323.1	317.4	315.8	313.4	309.4	307.7	305.3	301.3	300.5	297.3
37.5°	300.5	297.3	290.9	288.5	287.6	284.4	281.1	279.6	277.2	274.8	273.9
40°	273.1	269.1	265.9	263.5	261.8	259.4	256.1	255.4	253.7	250.6	249.8
42.5°	247.4	243.3	240.0	239.3	236.9	234.5	232.8	230.4	229.6	228.9	227.2
45°	222.4	220.0	216.7	215.9	215.2	211.9	210.2	208.7	207.1	206.3	204.7
47.5°	199.8	197.4	195.0	194.1	192.6	191.7	189.3	188.5	186.1	185.3	184.5
50°	178.0	176.5	174.9	174.0	172.4	171.6	170.0	168.4	166.7	166.0	165.2
52.5°	158.7	157.1	155.5	154.7	153.9	152.3	150.6	149.0	148.2	147.5	146.6
55°	140.2	138.6	137.7	136.9	136.2	135.3	132.9	132.1	131.4	130.5	128.9
57.5°	123.3	121.6	120.1	120.1	119.2	118.4	116.8	115.3	115.3	113.6	112.0
60°	107.9	106.4	104.7	104.0	103.1	101.6	100.7	99.9	99.0	98.3	96.6
62.5°	91.8	91.0	89.4	89.4	87.9	87.0	86.2	85.3	84.6	82.9	82.2
65°	78.1	77.3	75.7	74.9	74.9	74.2	72.5	71.8	70.9	70.9	70.1
67.5°	65.3	64.4	62.9	62.0	62.0	61.2	60.5	60.5	59.6	58.8	59.6
70°	54.0	52.4	52.4	51.6	51.6	50.7	50.0	50.0	50.0	50.7	50.7
72.5°	42.7	41.9	41.1	41.1	41.1	41.1	40.3	40.3	41.1	41.9	41.9
75°	33.9	33.1	33.1	33.1	32.2	32.2	33.1	33.1	33.9	33.9	33.9
77.5°	25.0	25.0	25.0	25.0	25.0	25.0	25.7	25.7	26.6	26.6	26.6
80°	18.5	18.5	18.5	18.5	18.5	19.4	19.4	19.4	19.4	19.4	20.2
82.5°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	13.7	13.7	13.7	13.7
85°	7.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
87.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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: P583744

CATALOG NUMBER: HC810D010-HM80520835-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	593.8	593.8	593.8	593.8	593.8	593.8	593.8	593.8
2.5°	581.6	581.6	581.6	582.5	580.9	580.9	580.9	580.9
5°	567.9	567.2	566.4	567.2	565.5	565.5	564.8	564.8
7.5°	551.1	550.3	549.4	549.4	547.9	547.9	547.0	546.3
10°	532.6	530.9	531.8	530.1	529.4	528.5	527.7	527.0
12.5°	512.4	510.8	510.0	508.3	506.8	505.9	506.8	505.2
15°	490.7	488.3	487.4	485.8	484.2	483.4	483.4	482.6
17.5°	466.5	464.9	464.1	462.4	461.7	460.0	459.3	458.4
20°	443.9	439.9	440.7	439.1	438.2	435.1	435.1	435.8
22.5°	418.9	416.5	414.9	413.4	412.5	410.8	410.8	410.1
25°	394.0	391.6	390.8	389.1	388.4	386.7	386.0	386.0
27.5°	369.9	366.6	366.6	364.9	363.4	362.5	361.8	361.0
30°	344.0	341.6	340.8	340.8	340.0	340.0	337.5	338.4
32.5°	319.9	318.3	317.4	315.8	315.8	315.0	315.0	312.6
35°	295.7	293.3	294.1	292.4	291.6	290.9	291.6	290.9
37.5°	272.4	270.7	270.7	269.1	269.1	268.3	267.4	269.1
40°	248.9	248.1	247.4	246.5	247.4	246.5	245.0	245.7
42.5°	225.6	225.6	224.8	224.8	223.9	223.9	223.9	223.9
45°	204.7	203.9	203.9	203.0	203.0	203.0	203.0	202.2
47.5°	183.7	182.9	182.9	182.9	182.1	182.1	181.3	182.1
50°	163.6	163.6	162.8	162.8	163.6	162.8	161.9	161.9
52.5°	145.1	145.1	144.2	144.2	143.4	142.6	143.4	143.4
55°	128.1	127.3	126.5	126.5	125.7	124.9	124.9	125.7
57.5°	112.0	111.2	110.3	110.3	108.8	107.9	107.9	107.9
60°	96.6	95.1	95.1	94.2	94.2	93.5	93.5	93.5
62.5°	82.2	81.4	81.4	81.4	81.4	80.5	80.5	80.5
65°	70.1	70.1	70.1	70.9	70.9	71.8	71.8	71.8
67.5°	60.5	61.2	61.2	61.2	62.0	62.0	62.0	61.2
70°	51.6	51.6	51.6	52.4	52.4	52.4	52.4	52.4
72.5°	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
75°	33.9	34.6	34.6	34.6	33.9	34.6	34.6	33.9
77.5°	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6
80°	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2
82.5°	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
85°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
87.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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)