

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: P593531

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593531
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-HM80520850-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1177.4 lumens
Efficiency: N/A
Efficacy: 118.9 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

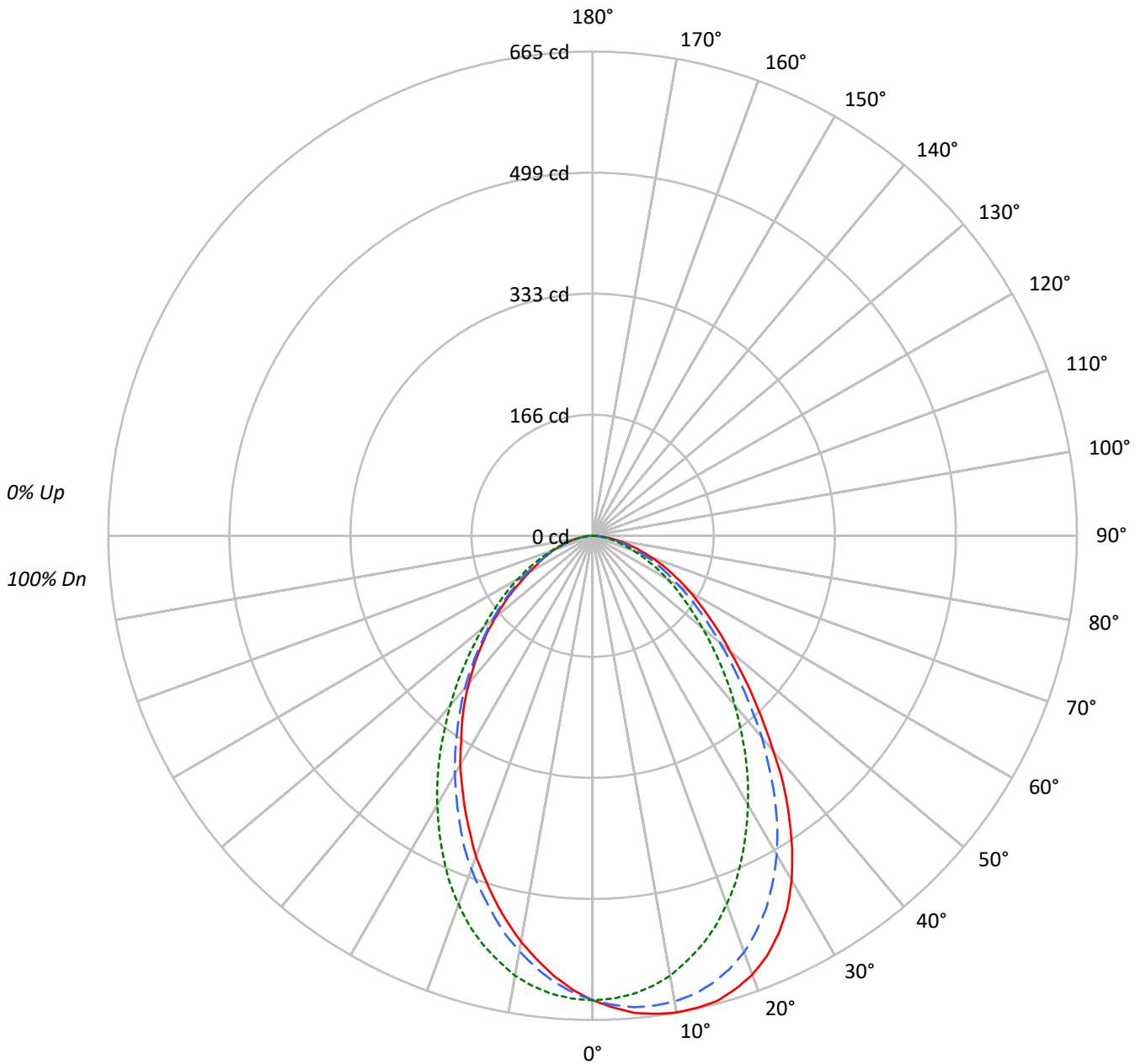
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	19670	19670	19670
5°	20365	19560	18783
10°	20816	19216	17726
15°	21111	18567	16553
20°	21048	17668	15367
25°	20527	16522	14106
30°	19448	15193	12947
35°	17693	13751	11764
40°	15542	12233	10627
45°	13549	10758	9476
50°	11792	9427	8342
55°	10521	8285	7258
60°	9553	7259	6192
65°	8588	6311	5618
70°	7655	5383	5076
75°	6708	4539	4325
80°	5683	3694	3836
85°	4281	2760	3078



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.8	5.1
10°-20°	164.6	14.0
20°-30°	228.5	19.4
30°-40°	236.3	20.1
40°-50°	197.8	16.8
50°-60°	143.6	12.2
60°-70°	90.6	7.7
70°-80°	44.9	3.8
80°-90°	11.2	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°	452.9	38.5
0°-40°	689.2	58.5
0°-60°	1030.7	87.5
0°-90°	1177.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1177.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	638	638	638	638	638	
5°	658	650	632	615	607	63
15°	661	636	582	535	518	186
25°	603	564	486	433	415	276
35°	470	435	365	324	312	293
45°	311	288	247	222	217	240
55°	196	178	154	141	135	177
65°	118	103	86	76	77	117
75°	56	47	38	36	36	60
85°	12	10	8	9	9	15
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°	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9
2.5°	648.4	648.4	649.2	648.4	648.4	648.4	647.5	647.5	646.6	646.6	644.9
5°	657.9	656.2	657.9	656.2	656.2	656.2	655.2	653.5	652.7	650.9	650.0
7.5°	662.2	661.3	661.3	660.5	660.5	659.5	658.7	657.9	654.4	653.5	650.9
10°	664.8	663.9	663.9	663.0	661.3	661.3	659.5	658.7	654.4	652.7	649.2
12.5°	663.9	663.9	663.9	663.0	660.5	659.5	657.9	655.2	651.8	648.4	644.9
15°	661.3	661.3	659.5	658.7	656.2	654.4	653.5	649.2	645.7	641.4	636.2
17.5°	652.7	652.7	651.8	650.0	647.5	645.7	644.0	639.7	636.2	629.2	624.1
20°	641.4	640.5	639.7	637.1	634.5	633.6	631.0	624.9	620.6	615.4	608.6
22.5°	624.9	624.1	623.2	621.6	617.2	615.4	613.7	609.4	601.6	596.4	587.8
25°	603.3	603.3	601.6	599.0	594.6	592.9	590.3	586.0	579.1	571.3	564.3
27.5°	578.3	577.3	574.8	573.0	569.6	567.0	562.7	557.5	550.5	544.5	535.9
30°	546.2	546.2	544.5	541.9	537.5	535.9	532.4	526.2	519.4	511.6	505.6
32.5°	509.9	509.9	507.2	505.6	502.9	498.6	497.7	490.8	484.8	478.6	471.8
35°	470.0	470.9	469.1	465.7	461.3	461.3	459.6	453.6	446.7	440.7	435.4
37.5°	430.2	427.6	426.7	425.0	422.4	418.9	417.2	414.6	408.6	404.2	396.4
40°	386.1	386.9	385.2	383.4	382.6	380.0	379.1	374.8	370.5	365.3	361.8
42.5°	346.3	346.3	346.3	344.5	342.8	340.2	339.3	336.7	331.5	328.0	322.9
45°	310.7	308.2	308.2	307.2	306.4	304.7	302.1	300.4	296.9	294.2	288.2
47.5°	276.1	276.9	276.1	275.3	272.6	271.8	270.9	267.4	264.0	261.4	257.1
50°	245.8	247.6	245.8	245.8	244.1	243.3	241.5	239.0	236.3	232.0	227.7
52.5°	220.7	220.7	219.8	219.0	216.4	214.7	213.8	213.0	208.7	205.2	201.7
55°	195.7	196.5	196.5	193.9	193.0	191.4	190.4	187.9	186.1	180.9	178.3
57.5°	173.9	173.1	173.9	172.2	170.6	168.8	167.9	166.2	163.6	160.1	156.6
60°	154.9	153.3	153.3	152.3	150.6	149.8	148.0	145.4	142.8	139.3	136.8
62.5°	135.9	135.0	134.1	133.3	131.6	130.7	129.8	127.3	124.6	122.0	119.5
65°	117.7	117.7	116.8	115.2	114.3	113.3	112.5	110.8	107.3	105.7	103.0
67.5°	101.3	100.4	100.4	98.7	97.0	96.0	96.0	94.4	91.7	89.2	87.4
70°	84.9	85.7	84.9	84.0	82.2	82.2	80.5	79.7	76.2	75.4	72.7
72.5°	70.1	70.1	69.2	69.2	67.6	66.7	66.7	64.9	63.2	61.4	59.7
75°	56.3	56.3	56.3	55.4	54.6	52.8	52.8	51.9	50.2	48.4	46.8
77.5°	44.1	43.3	43.3	42.4	41.6	40.6	40.6	39.8	38.1	37.3	35.5
80°	32.0	31.1	31.1	31.1	29.4	30.3	29.4	28.6	27.6	26.8	26.0
82.5°	20.8	21.6	21.6	20.8	20.0	20.0	20.0	19.0	19.0	18.2	17.3
85°	12.1	12.1	12.1	12.1	11.3	11.3	11.3	10.3	10.3	10.3	9.5
87.5°	5.2	5.2	5.2	5.2	5.2	5.2	4.3	4.3	4.3	4.3	4.3
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°	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9
2.5°	644.9	643.2	642.2	641.4	641.4	640.5	639.7	637.9	637.9	636.2	635.4
5°	648.4	645.7	644.0	642.2	641.4	639.7	637.9	635.4	634.5	631.9	629.2
7.5°	649.2	644.9	643.2	639.7	637.9	636.2	632.7	630.2	626.7	624.1	620.6
10°	645.7	642.2	637.9	633.6	632.7	630.2	624.9	621.6	617.2	613.7	608.6
12.5°	640.5	635.4	631.0	625.9	623.2	620.6	615.4	610.3	604.2	598.1	592.9
15°	631.9	625.9	619.8	613.7	610.3	607.6	601.6	595.6	589.5	581.6	576.5
17.5°	618.9	611.9	605.9	598.1	594.6	592.1	584.3	577.3	569.6	561.8	556.5
20°	602.4	593.8	586.9	578.3	575.6	571.3	563.5	555.7	547.0	538.4	532.4
22.5°	580.8	572.2	564.3	555.7	551.4	547.0	539.2	529.7	521.1	514.2	508.1
25°	555.7	547.9	538.4	530.6	525.4	520.2	511.6	503.8	495.9	485.6	479.6
27.5°	528.0	518.5	511.6	501.2	495.9	492.6	483.0	472.6	465.7	456.2	449.3
30°	496.9	488.3	480.4	470.0	464.8	461.3	452.7	443.2	436.2	426.7	419.9
32.5°	464.0	454.5	445.0	438.0	431.9	428.5	418.9	412.9	404.2	396.4	388.6
35°	428.5	418.9	412.0	402.5	399.1	395.6	387.8	380.0	372.3	365.3	359.3
37.5°	390.4	383.4	375.6	368.8	366.1	362.6	353.1	346.3	340.2	333.3	328.0
40°	353.1	347.1	342.0	335.0	330.7	328.0	321.2	315.0	308.2	303.9	298.6
42.5°	319.4	312.5	307.2	302.1	297.7	295.2	289.1	284.8	279.6	275.3	269.2
45°	283.9	280.4	274.4	270.1	267.4	264.0	259.6	254.5	250.1	246.7	242.3
47.5°	252.8	249.3	245.0	239.8	238.0	235.5	231.1	227.7	224.2	220.7	216.4
50°	224.2	219.8	216.4	213.0	211.2	208.7	204.3	202.5	200.0	196.5	193.9
52.5°	198.2	194.7	191.4	186.9	186.1	184.4	181.7	178.3	175.7	173.9	172.2
55°	174.9	171.4	168.8	165.3	164.4	162.8	159.3	157.6	155.8	154.1	152.3
57.5°	154.1	150.6	147.1	145.4	143.6	142.0	141.1	138.5	136.8	135.9	134.1
60°	135.0	131.6	129.0	126.3	125.5	124.6	123.0	121.2	119.5	117.7	116.8
62.5°	116.8	113.3	111.7	110.0	108.2	108.2	106.5	104.7	103.0	102.2	100.4
65°	100.4	98.7	96.0	93.5	92.7	92.7	90.0	89.2	88.3	86.5	84.9
67.5°	84.9	83.1	80.5	79.7	78.7	77.9	77.0	75.4	73.6	72.7	71.0
70°	71.0	69.2	67.6	66.7	65.7	64.9	63.2	62.3	60.6	59.7	58.9
72.5°	57.1	56.3	54.6	53.6	52.8	51.9	51.1	50.2	48.4	47.6	46.8
75°	45.9	45.0	43.3	42.4	41.6	41.6	40.6	38.9	38.1	38.1	37.3
77.5°	34.6	33.8	32.9	32.0	31.1	31.1	30.3	29.4	28.6	28.6	27.6
80°	25.1	24.3	23.3	23.3	23.3	22.5	21.6	21.6	20.8	20.8	20.0
82.5°	16.5	16.5	15.6	15.6	15.6	14.7	14.7	13.8	13.8	13.8	13.8
85°	9.5	9.5	9.5	8.7	8.7	8.7	8.7	8.7	8.7	7.8	8.7
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	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°	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9
2.5°	634.5	633.6	631.9	631.9	630.2	630.2	629.2	628.4	627.6	626.7	625.9
5°	628.4	624.9	623.2	622.4	620.6	619.8	617.2	615.4	614.6	612.9	611.1
7.5°	617.2	613.7	610.3	609.4	608.6	605.1	602.4	599.9	598.1	596.4	594.6
10°	604.2	600.8	596.4	594.6	592.9	588.6	585.1	582.6	579.1	575.6	574.8
12.5°	588.6	583.5	578.3	576.5	574.0	569.6	566.1	561.8	559.2	554.8	554.0
15°	570.5	564.3	560.0	555.7	554.0	549.7	543.5	540.2	534.9	533.2	528.9
17.5°	548.8	542.7	536.7	534.9	532.4	526.2	520.2	515.9	510.7	508.1	505.6
20°	526.2	518.5	512.4	510.7	507.2	502.1	495.9	491.6	487.3	482.1	479.6
22.5°	500.3	491.6	486.4	482.1	481.3	475.3	468.3	464.8	461.3	457.0	453.6
25°	471.8	464.0	458.0	454.5	452.7	447.5	442.3	438.0	432.8	430.2	425.9
27.5°	442.3	437.2	429.4	425.9	423.2	418.9	412.9	410.2	405.1	401.6	399.1
30°	413.7	405.9	401.6	397.3	394.7	390.4	385.2	382.6	378.3	374.8	372.3
32.5°	382.6	377.4	371.3	369.6	366.1	361.8	358.3	354.0	350.6	347.1	346.3
35°	354.0	347.1	341.0	339.3	336.7	332.4	330.7	328.0	323.7	322.9	319.4
37.5°	322.9	319.4	312.5	309.9	309.0	305.5	302.1	300.4	297.7	295.2	294.2
40°	293.4	289.1	285.6	283.1	281.3	278.7	275.3	274.4	272.6	269.2	268.3
42.5°	265.8	261.4	257.9	257.1	254.5	251.9	250.1	247.6	246.7	245.8	244.1
45°	239.0	236.3	232.8	232.0	231.1	227.7	226.0	224.2	222.5	221.6	219.8
47.5°	214.7	212.0	209.5	208.7	206.9	206.0	203.4	202.5	200.0	199.1	198.2
50°	191.4	189.6	187.9	186.9	185.2	184.4	182.6	180.9	179.2	178.3	177.4
52.5°	170.6	168.8	167.1	166.2	165.3	163.6	161.9	160.1	159.3	158.4	157.6
55°	150.6	148.9	148.0	147.1	146.3	145.4	142.8	142.0	141.1	140.3	138.5
57.5°	132.5	130.7	129.0	129.0	128.1	127.3	125.5	123.8	123.8	122.0	120.3
60°	116.0	114.3	112.5	111.7	110.8	109.0	108.2	107.3	106.5	105.7	103.9
62.5°	98.7	97.8	96.0	96.0	94.4	93.5	92.7	91.7	90.9	89.2	88.3
65°	84.0	83.1	81.4	80.5	80.5	79.7	77.9	77.0	76.2	76.2	75.4
67.5°	70.1	69.2	67.6	66.7	66.7	65.7	64.9	64.9	64.1	63.2	64.1
70°	57.9	56.3	56.3	55.4	55.4	54.6	53.6	53.6	53.6	54.6	54.6
72.5°	45.9	45.0	44.1	44.1	44.1	44.1	43.3	43.3	44.1	45.0	45.0
75°	36.3	35.5	35.5	35.5	34.6	34.6	35.5	35.5	36.3	36.3	36.3
77.5°	26.8	26.8	26.8	26.8	26.8	26.8	27.6	27.6	28.6	28.6	28.6
80°	20.0	20.0	20.0	20.0	20.0	20.8	20.8	20.8	20.8	20.8	21.6
82.5°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	14.7	14.7	14.7	14.7
85°	7.8	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	637.9	637.9	637.9	637.9	637.9	637.9	637.9	637.9
2.5°	624.9	624.9	624.9	625.9	624.1	624.1	624.1	624.1
5°	610.3	609.4	608.6	609.4	607.6	607.6	606.8	606.8
7.5°	592.1	591.3	590.3	590.3	588.6	588.6	587.8	586.9
10°	572.2	570.5	571.3	569.6	568.7	567.8	567.0	566.1
12.5°	550.5	548.8	547.9	546.2	544.5	543.5	544.5	542.7
15°	527.2	524.6	523.7	521.9	520.2	519.4	519.4	518.5
17.5°	501.2	499.4	498.6	496.9	495.9	494.3	493.4	492.6
20°	477.0	472.6	473.5	471.8	470.9	467.5	467.5	468.3
22.5°	450.1	447.5	445.8	444.0	443.2	441.5	441.5	440.7
25°	423.2	420.7	419.9	418.1	417.2	415.5	414.6	414.6
27.5°	397.3	393.9	393.9	392.1	390.4	389.6	388.6	387.8
30°	369.6	367.0	366.1	366.1	365.3	365.3	362.6	363.6
32.5°	343.7	342.0	341.0	339.3	339.3	338.5	338.5	335.8
35°	317.7	315.0	316.0	314.2	313.4	312.5	313.4	312.5
37.5°	292.6	290.9	290.9	289.1	289.1	288.2	287.4	289.1
40°	267.4	266.6	265.8	264.9	265.8	264.9	263.1	264.0
42.5°	242.3	242.3	241.5	241.5	240.6	240.6	240.6	240.6
45°	219.8	219.0	219.0	218.2	218.2	218.2	218.2	217.3
47.5°	197.4	196.5	196.5	196.5	195.7	195.7	194.7	195.7
50°	175.7	175.7	174.9	174.9	175.7	174.9	173.9	173.9
52.5°	155.8	155.8	154.9	154.9	154.1	153.3	154.1	154.1
55°	137.6	136.8	135.9	135.9	135.0	134.1	134.1	135.0
57.5°	120.3	119.5	118.6	118.6	116.8	116.0	116.0	116.0
60°	103.9	102.2	102.2	101.3	101.3	100.4	100.4	100.4
62.5°	88.3	87.4	87.4	87.4	87.4	86.5	86.5	86.5
65°	75.4	75.4	75.4	76.2	76.2	77.0	77.0	77.0
67.5°	64.9	65.7	65.7	65.7	66.7	66.7	66.7	65.7
70°	55.4	55.4	55.4	56.3	56.3	56.3	56.3	56.3
72.5°	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9
75°	36.3	37.3	37.3	37.3	36.3	37.3	37.3	36.3
77.5°	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6
80°	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6
82.5°	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
85°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
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)