

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: P583711

Luminaire Tested: **HC810D010-HM80520827-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583711
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC810D010-HM80520827-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1102.7 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

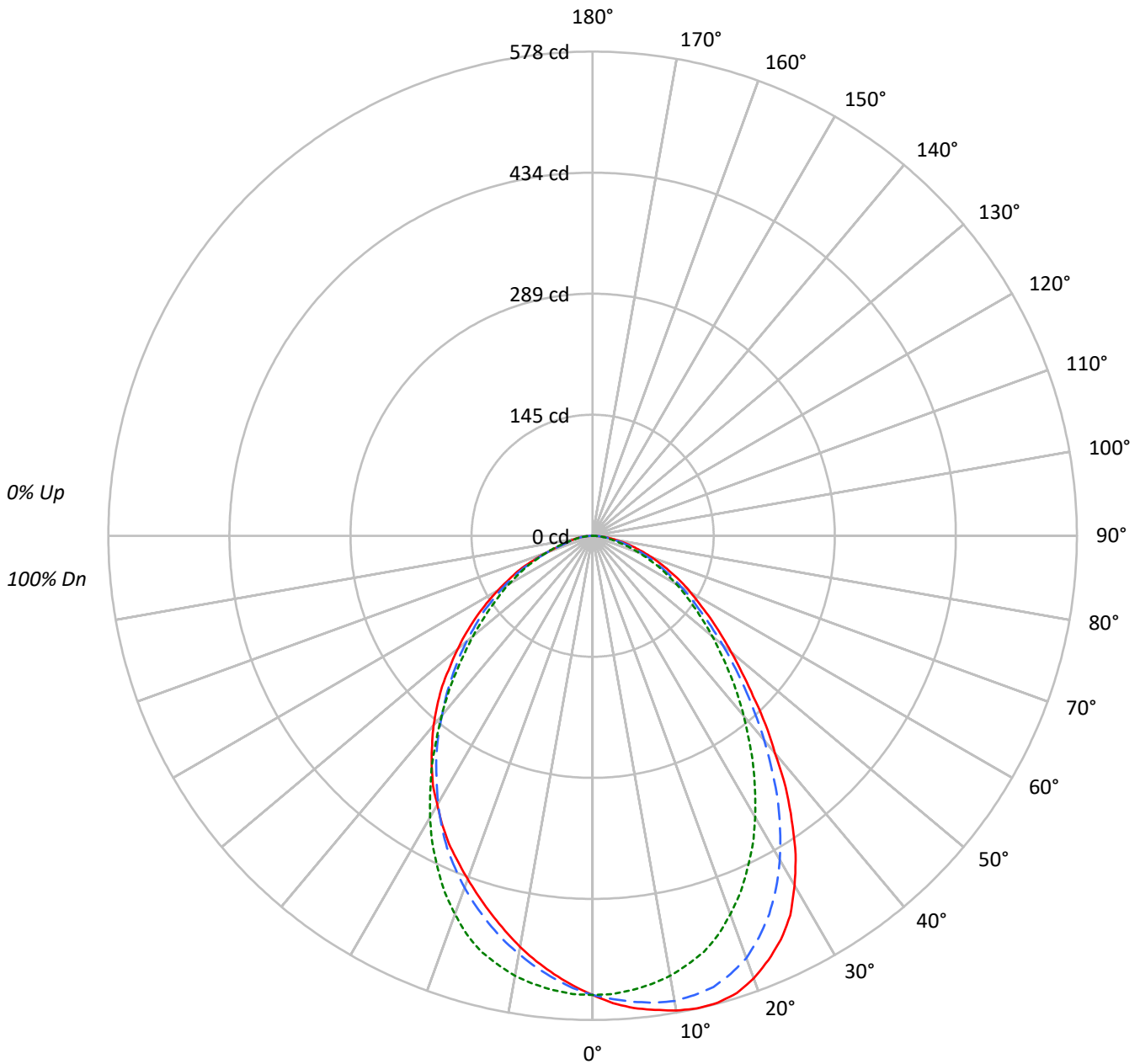
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75								
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65								
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57								
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50								
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45								
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40								
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37								
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33								
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16904	16904	16904
5°	17523	16851	16269
10°	18020	16702	15609
15°	18423	16409	14918
20°	18452	15771	14311
25°	18097	14889	13807
30°	17166	13812	13199
35°	15596	12581	12607
40°	13634	11287	11883
45°	11822	10052	11072
50°	10353	8933	10084
55°	9209	7914	9123
60°	8307	7111	8024
65°	7501	6253	6990
70°	6744	5265	5193
75°	5945	4182	3896
80°	4972	3463	3729
85°	3856	3007	3326



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.7	4.7
10°-20°	145.7	13.2
20°-30°	208.2	18.9
30°-40°	221.2	20.1
40°-50°	190.5	17.3
50°-60°	142.4	12.9
60°-70°	90.8	8.2
70°-80°	41.3	3.7
80°-90°	10.8	1.0
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°	405.6	36.8
0°-40°	626.8	56.8
0°-60°	959.7	87.0
0°-90°	1102.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1102.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	548	548	548	548	548	
5°	566	558	544	530	526	54
15°	577	558	514	479	467	163
25°	532	498	438	411	406	243
35°	414	386	334	326	335	258
45°	271	256	230	237	254	211
55°	171	157	147	160	170	154
65°	103	91	86	90	96	103
75°	50	43	35	32	33	53
85°	11	9	8	9	9	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°	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2
2.5°	558.4	556.9	557.6	556.9	557.6	557.6	556.0	556.0	556.0	556.0	553.8
5°	566.1	565.4	565.4	564.6	563.9	564.6	563.9	563.0	561.6	560.7	558.4
7.5°	570.8	570.8	570.8	570.8	570.1	569.3	568.5	567.0	565.4	563.9	562.3
10°	575.5	576.4	575.5	574.8	574.0	572.4	571.7	570.1	567.7	565.4	563.9
12.5°	577.9	577.9	577.1	577.1	575.5	574.8	572.4	570.1	567.7	565.4	561.6
15°	577.1	577.1	576.4	575.5	573.2	572.4	570.8	568.5	564.6	561.6	557.6
17.5°	572.4	571.7	570.1	570.1	567.0	566.1	564.6	561.6	557.6	552.9	548.2
20°	562.3	562.3	561.6	560.7	557.6	555.3	553.8	549.8	546.7	541.3	536.6
22.5°	548.2	549.8	548.2	546.7	542.8	542.1	539.7	535.0	530.3	524.2	518.7
25°	531.9	531.2	530.3	528.8	525.6	524.2	521.1	516.4	511.7	504.7	498.5
27.5°	510.8	507.7	507.7	504.7	502.3	500.0	498.5	493.8	487.5	482.1	474.3
30°	482.1	482.8	479.0	478.2	474.3	472.7	469.6	464.9	459.5	453.3	447.0
32.5°	450.9	448.6	448.6	445.5	442.3	440.1	439.2	433.8	429.1	422.9	416.6
35°	414.3	414.3	412.0	411.2	408.1	406.5	404.2	401.1	395.6	390.2	385.5
37.5°	378.5	376.9	376.1	374.7	372.3	370.0	370.0	364.4	363.7	357.5	351.2
40°	338.7	340.3	338.7	336.4	335.7	334.2	333.3	330.2	327.9	322.4	318.5
42.5°	305.3	303.7	303.7	302.9	299.9	299.9	298.3	296.8	292.8	291.2	286.6
45°	271.1	272.6	270.2	271.1	267.9	267.9	267.9	264.8	261.7	259.4	256.3
47.5°	241.5	242.2	242.2	239.9	239.1	239.1	237.5	236.0	233.7	230.5	228.1
50°	215.8	216.5	214.9	214.2	212.6	211.8	211.8	208.7	207.1	204.1	202.5
52.5°	192.3	192.3	191.6	191.6	189.2	189.2	187.6	185.3	183.8	182.2	178.4
55°	171.3	171.3	170.6	169.7	169.7	167.4	166.7	164.3	162.8	159.6	157.3
57.5°	151.1	151.8	151.1	150.2	149.5	148.8	147.2	144.8	143.3	141.0	139.4
60°	134.7	134.7	133.9	133.2	131.6	130.9	130.1	128.5	126.2	124.6	122.2
62.5°	119.1	118.4	117.6	116.8	115.3	115.3	113.7	112.1	109.9	108.3	106.7
65°	102.8	102.8	102.0	102.0	101.2	99.6	98.9	98.1	95.0	94.2	91.1
67.5°	88.0	88.8	87.3	87.3	85.7	85.7	84.9	82.6	81.7	80.2	78.6
70°	74.8	74.8	74.8	74.0	72.5	71.6	70.9	69.4	68.5	67.0	65.4
72.5°	61.5	61.5	60.7	60.7	60.0	59.1	58.4	56.9	56.9	55.3	53.7
75°	49.9	49.9	49.0	48.3	47.5	47.5	46.8	45.9	44.4	43.6	42.8
77.5°	38.1	38.1	38.1	37.4	36.7	36.7	36.7	35.1	33.5	33.5	32.7
80°	28.0	28.0	27.3	27.3	26.4	26.4	26.4	25.7	24.9	24.2	23.3
82.5°	18.8	18.8	18.8	18.8	17.9	17.9	17.9	17.2	16.3	16.3	16.3
85°	10.9	10.9	10.9	10.9	10.1	10.1	10.1	10.1	10.1	9.4	9.4
87.5°	4.7	3.8	4.7	3.8	4.7	3.8	4.7	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°	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2
2.5°	554.5	553.8	552.9	552.2	552.2	551.4	549.8	549.1	548.2	547.5	547.5
5°	557.6	556.9	555.3	553.8	552.9	551.4	549.8	548.2	546.7	544.4	543.7
7.5°	560.0	557.6	556.0	552.9	552.2	550.6	548.2	545.9	542.8	539.7	537.4
10°	560.0	556.9	554.5	550.6	549.1	547.5	544.4	540.5	536.6	533.4	529.6
12.5°	558.4	554.5	550.6	546.7	544.4	542.1	537.4	533.4	528.8	524.2	521.1
15°	552.9	548.2	543.7	539.0	536.6	533.4	528.8	523.4	518.7	514.0	508.6
17.5°	542.8	538.1	532.7	527.2	524.2	521.8	514.8	510.8	503.9	499.2	494.5
20°	529.6	524.2	517.1	511.7	507.7	505.4	500.0	492.9	487.5	480.6	475.9
22.5°	512.4	505.4	498.5	492.9	489.1	486.0	479.0	471.9	467.3	461.1	455.6
25°	492.2	485.2	478.2	470.3	466.5	463.4	457.1	450.9	444.7	437.6	433.0
27.5°	468.1	460.2	454.0	447.0	443.2	438.5	431.4	425.3	419.0	414.3	408.1
30°	441.6	433.0	426.8	419.7	415.9	412.0	405.0	398.7	393.3	387.9	384.8
32.5°	409.6	403.4	397.1	390.2	387.0	384.8	377.7	371.5	365.3	360.6	358.2
35°	379.2	372.3	366.9	360.6	356.6	354.3	348.1	342.7	339.6	334.2	331.0
37.5°	347.4	341.8	335.7	329.5	327.1	324.8	320.1	314.7	310.0	306.0	304.5
40°	313.8	309.2	303.7	299.9	297.5	295.2	291.2	287.4	284.3	280.4	278.9
42.5°	281.9	278.9	274.2	269.5	267.1	266.4	261.7	258.6	257.0	255.4	253.9
45°	253.1	248.5	245.3	242.2	239.9	238.4	236.0	233.7	232.1	230.5	229.0
47.5°	225.1	221.2	218.0	215.8	213.4	212.6	211.1	208.7	207.1	207.1	207.1
50°	199.4	196.3	193.2	191.6	190.8	189.2	187.6	186.9	186.2	186.2	186.2
52.5°	176.8	173.7	171.3	169.7	169.7	168.3	166.7	165.9	165.9	165.9	165.9
55°	155.8	153.4	151.8	150.2	148.8	148.0	148.0	148.0	147.2	147.2	148.0
57.5°	137.0	135.5	133.2	131.6	130.9	130.9	130.1	129.3	130.1	130.9	131.6
60°	120.0	118.4	117.6	115.3	115.3	115.3	114.4	114.4	114.4	115.3	116.0
62.5°	104.3	103.6	102.0	101.2	100.5	100.5	99.6	99.6	99.6	99.6	100.5
65°	90.4	88.8	87.3	87.3	87.3	86.4	86.4	84.9	85.7	85.7	84.9
67.5°	77.0	75.5	74.8	74.0	73.2	73.2	72.5	71.6	70.9	70.9	70.9
70°	64.7	63.1	63.1	61.5	61.5	60.7	60.0	60.0	59.1	58.4	57.6
72.5°	52.2	51.4	50.6	49.9	49.9	49.9	49.0	48.3	47.5	46.8	45.2
75°	41.2	41.2	39.7	38.9	38.9	38.1	37.4	36.7	35.8	35.1	34.3
77.5°	32.0	31.1	29.6	28.8	28.8	28.8	28.0	27.3	26.4	25.7	24.9
80°	23.3	22.6	21.8	21.0	21.0	21.0	20.2	20.2	19.5	19.5	19.5
82.5°	15.6	15.6	14.8	14.8	14.8	14.8	14.1	14.1	14.1	14.1	14.1
85°	9.4	9.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
87.5°	3.8	3.8	3.8	3.8	3.8	3.8	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2
2.5°	545.9	545.9	544.4	543.7	542.8	543.7	542.1	541.3	540.5	540.5	539.7
5°	541.3	540.5	537.4	536.6	535.9	535.0	533.4	531.9	530.3	529.6	528.8
7.5°	535.0	532.7	529.6	528.8	528.0	525.6	523.4	521.8	519.5	518.7	517.1
10°	526.5	523.4	521.1	518.7	517.1	514.8	512.4	510.1	507.0	506.3	503.9
12.5°	516.4	512.4	507.7	507.0	504.7	501.6	498.5	496.1	493.8	492.2	489.8
15°	503.9	500.0	495.3	492.9	490.7	488.3	484.4	481.3	479.0	476.6	474.3
17.5°	489.1	484.4	480.6	478.2	476.6	472.7	469.6	465.8	463.4	461.1	458.7
20°	471.2	467.3	461.8	459.5	458.7	455.6	451.7	450.1	447.0	444.7	443.2
22.5°	450.9	447.0	442.3	440.8	437.6	436.1	432.2	430.7	429.1	426.8	426.0
25°	428.4	424.4	420.6	419.7	417.5	415.9	413.5	411.2	411.2	408.9	408.9
27.5°	405.0	401.1	398.0	396.4	395.6	394.0	391.7	391.0	390.2	389.4	389.4
30°	380.1	375.4	373.8	373.1	372.3	370.7	370.0	368.4	369.1	370.0	369.1
32.5°	353.6	352.1	348.9	347.4	348.1	347.4	345.8	347.4	346.5	348.1	348.9
35°	327.9	326.3	324.8	324.8	323.2	323.2	323.2	323.9	325.5	326.3	327.9
37.5°	302.9	300.6	299.9	299.1	299.9	299.9	299.9	301.3	302.9	304.5	306.9
40°	276.5	274.9	274.9	274.9	274.9	277.3	276.5	278.0	279.6	281.9	284.3
42.5°	251.6	251.6	252.3	252.3	252.3	252.3	253.9	256.3	258.6	261.0	263.2
45°	228.1	228.1	228.1	229.7	229.7	230.5	233.7	235.2	236.8	239.1	241.5
47.5°	206.4	206.4	207.1	207.9	208.7	210.2	211.8	214.2	216.5	218.0	220.4
50°	186.2	186.9	188.5	190.0	190.0	190.8	193.2	194.7	196.3	198.6	199.4
52.5°	166.7	168.3	169.7	170.6	171.3	172.8	173.7	176.0	176.8	179.1	179.9
55°	148.8	149.5	151.8	152.7	152.7	154.2	155.8	157.3	159.6	159.6	161.2
57.5°	132.3	133.2	134.7	135.5	134.7	137.0	137.9	139.4	140.2	141.7	142.6
60°	116.0	117.6	118.4	118.4	119.1	120.0	121.5	121.5	123.1	124.6	124.6
62.5°	100.5	101.2	102.0	102.8	103.6	102.8	105.2	105.2	106.7	107.5	109.0
65°	85.7	86.4	86.4	87.3	87.3	88.0	88.0	88.8	89.5	91.1	92.0
67.5°	70.9	70.9	70.9	71.6	70.9	71.6	71.6	72.5	72.5	74.0	74.8
70°	57.6	56.9	56.1	56.1	56.1	56.1	55.3	56.1	56.1	56.9	56.9
72.5°	44.4	43.6	42.8	42.1	42.1	41.2	40.5	41.2	41.2	42.1	42.1
75°	33.5	32.0	32.0	32.0	31.1	31.1	31.1	32.0	32.0	32.0	32.7
77.5°	24.9	24.9	24.2	24.2	24.2	24.9	24.9	25.7	25.7	25.7	25.7
80°	18.8	19.5	19.5	19.5	19.5	20.2	20.2	20.2	20.2	21.0	21.0
82.5°	14.1	14.1	14.1	14.1	14.8	14.8	14.8	14.8	14.8	14.8	14.8
85°	8.5	9.4	9.4	8.5	9.4	9.4	9.4	9.4	9.4	9.4	9.4
87.5°	3.8	3.8	3.8	3.8	3.8	3.8	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):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	548.2	548.2	548.2	548.2	548.2	548.2	548.2	548.2
2.5°	539.0	539.0	539.0	539.0	538.1	538.1	538.1	537.4
5°	527.2	527.2	527.2	525.6	526.5	526.5	524.9	525.6
7.5°	515.5	514.8	514.0	514.0	513.3	512.4	511.7	512.4
10°	502.3	500.0	500.0	499.2	499.2	497.6	497.6	498.5
12.5°	487.5	486.0	486.0	485.2	484.4	483.7	482.8	482.8
15°	472.7	471.2	470.3	469.6	468.9	467.3	468.1	467.3
17.5°	458.0	455.6	455.6	454.8	454.0	452.4	452.4	451.7
20°	440.8	440.1	438.5	439.2	438.5	436.9	436.1	436.1
22.5°	423.7	423.7	422.9	422.9	422.1	421.3	420.6	420.6
25°	407.4	406.5	407.4	407.4	405.0	405.0	405.0	405.8
27.5°	388.6	389.4	388.6	388.6	388.6	388.6	389.4	388.6
30°	370.0	370.0	370.0	370.7	372.3	371.5	371.5	370.7
32.5°	349.7	350.5	350.5	351.2	352.1	353.6	353.6	354.3
35°	329.5	331.0	331.8	331.0	333.3	333.3	334.9	334.9
37.5°	308.4	309.2	310.7	311.6	313.1	313.8	314.7	314.7
40°	285.8	289.0	289.7	290.5	292.8	292.8	293.6	295.2
42.5°	264.8	267.9	268.6	269.5	271.1	273.3	272.6	274.2
45°	244.5	246.9	247.6	248.5	250.7	251.6	251.6	253.9
47.5°	222.7	224.3	225.1	226.6	228.1	229.7	231.3	230.5
50°	201.0	203.3	204.8	205.7	207.9	208.7	209.5	210.2
52.5°	181.5	183.1	183.8	184.6	186.9	187.6	188.5	190.0
55°	162.8	163.6	165.2	164.3	166.7	167.4	168.3	169.7
57.5°	144.1	144.8	145.7	145.7	147.2	148.8	149.5	150.2
60°	126.2	127.8	128.5	128.5	128.5	130.1	130.1	130.1
62.5°	109.9	109.9	110.6	110.6	112.1	112.1	112.1	112.1
65°	92.7	93.5	94.2	94.2	95.8	95.0	96.5	95.8
67.5°	74.8	74.8	76.3	76.3	75.5	76.3	76.3	76.3
70°	56.9	56.9	57.6	57.6	57.6	57.6	57.6	57.6
72.5°	42.1	42.1	42.1	42.8	42.1	42.1	42.8	42.1
75°	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7
77.5°	25.7	25.7	26.4	26.4	26.4	26.4	26.4	26.4
80°	21.0	21.0	21.0	21.0	21.8	21.0	21.0	21.0
82.5°	15.6	14.8	15.6	14.8	15.6	15.6	15.6	15.6
85°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
87.5°	3.8	3.8	3.8	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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)