

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: P583795

Luminaire Tested: **HC810D010-HM80520930-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583795
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-HM80520930-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 952.4 lumens
Efficiency: N/A
Efficacy: 96.2 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

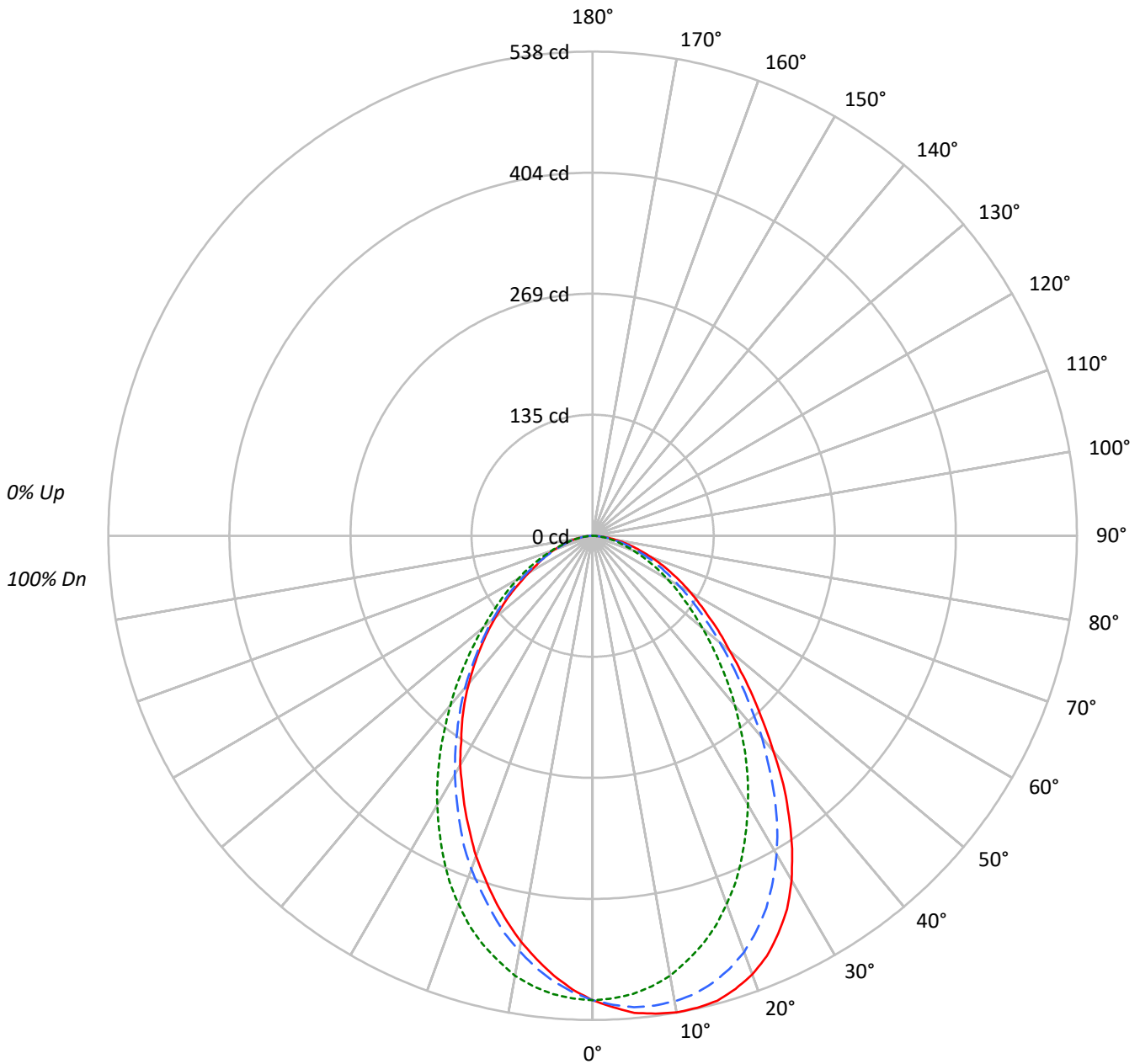
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	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°	15912	15912	15912
5°	16471	15821	15192
10°	16840	15543	14341
15°	17076	15020	13389
20°	17025	14291	12430
25°	16604	13365	11412
30°	15735	12291	10472
35°	14312	11124	9516
40°	12571	9894	8598
45°	10959	8700	7662
50°	9537	7623	6755
55°	8505	6699	5876
60°	7734	5871	5014
65°	6946	5115	4546
70°	6185	4355	4111
75°	5433	3670	3503
80°	4617	2983	3108
85°	3503	2229	2477



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.3	5.1
10°-20°	133.2	14.0
20°-30°	184.9	19.4
30°-40°	191.1	20.1
40°-50°	160.0	16.8
50°-60°	116.2	12.2
60°-70°	73.3	7.7
70°-80°	36.3	3.8
80°-90°	9.0	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°	366.4	38.5
0°-40°	557.5	58.5
0°-60°	833.7	87.5
0°-90°	952.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	952.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	516	516	516	516	516	
5°	532	526	511	497	491	51
15°	535	515	470	433	419	151
25°	488	456	393	350	335	224
35°	380	352	296	262	253	237
45°	251	233	200	180	176	194
55°	158	144	125	114	109	143
65°	95	83	70	62	62	95
75°	46	38	31	29	29	49
85°	10	8	6	7	7	12
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°	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0
2.5°	524.4	524.4	525.2	524.4	524.4	524.4	523.7	523.7	523.0	523.0	521.7
5°	532.1	530.7	532.1	530.7	530.7	530.7	530.1	528.6	527.9	526.5	525.9
7.5°	535.6	534.9	534.9	534.2	534.2	533.6	532.8	532.1	529.4	528.6	526.5
10°	537.8	537.1	537.1	536.3	534.9	534.9	533.6	532.8	529.4	527.9	525.2
12.5°	537.1	537.1	537.1	536.3	534.2	533.6	532.1	530.1	527.2	524.4	521.7
15°	534.9	534.9	533.6	532.8	530.7	529.4	528.6	525.2	522.3	518.8	514.6
17.5°	527.9	527.9	527.2	525.9	523.7	522.3	520.9	517.5	514.6	509.0	504.8
20°	518.8	518.2	517.5	515.3	513.3	512.5	510.4	505.6	502.1	497.9	492.2
22.5°	505.6	504.8	504.1	502.7	499.2	497.9	496.4	492.9	486.6	482.4	475.4
25°	488.0	488.0	486.6	484.5	481.0	479.6	477.6	474.1	468.4	462.2	456.5
27.5°	467.7	467.0	464.9	463.5	460.7	458.6	455.1	450.9	445.3	440.4	433.4
30°	441.9	441.9	440.4	438.2	434.8	433.4	430.6	425.7	420.1	413.8	408.9
32.5°	412.4	412.4	410.2	408.9	406.8	403.3	402.5	397.0	392.1	387.2	381.6
35°	380.2	380.9	379.5	376.7	373.2	373.2	371.8	366.9	361.3	356.4	352.2
37.5°	348.0	345.9	345.2	343.8	341.7	338.8	337.5	335.4	330.4	326.9	320.7
40°	312.3	313.0	311.6	310.1	309.5	307.4	306.6	303.1	299.7	295.5	292.7
42.5°	280.1	280.1	280.1	278.6	277.3	275.1	274.4	272.4	268.2	265.4	261.2
45°	251.3	249.3	249.3	248.6	247.9	246.4	244.4	242.9	240.2	238.1	233.2
47.5°	223.3	224.1	223.3	222.6	220.6	219.8	219.1	216.4	213.6	211.4	207.9
50°	198.8	200.3	198.8	198.8	197.5	196.8	195.3	193.3	191.1	187.6	184.1
52.5°	178.5	178.5	177.9	177.2	175.0	173.7	173.0	172.2	168.8	166.0	163.1
55°	158.2	158.9	158.9	156.9	156.1	154.7	154.1	151.9	150.5	146.3	144.2
57.5°	140.8	140.0	140.8	139.3	138.0	136.5	135.8	134.4	132.3	129.6	126.7
60°	125.4	123.9	123.9	123.2	121.9	121.2	119.7	117.7	115.5	112.7	110.6
62.5°	110.0	109.3	108.5	107.8	106.4	105.8	105.1	102.9	100.8	98.7	96.6
65°	95.2	95.2	94.5	93.2	92.4	91.7	91.0	89.7	86.8	85.5	83.3
67.5°	82.0	81.3	81.3	79.8	78.4	77.8	77.8	76.3	74.2	72.1	70.7
70°	68.6	69.4	68.6	67.9	66.5	66.5	65.1	64.4	61.7	60.9	58.8
72.5°	56.7	56.7	56.0	56.0	54.6	54.0	54.0	52.5	51.1	49.8	48.3
75°	45.6	45.6	45.6	44.8	44.1	42.7	42.7	42.1	40.6	39.2	37.9
77.5°	35.7	35.0	35.0	34.3	33.7	32.9	32.9	32.2	30.8	30.0	28.7
80°	26.0	25.2	25.2	25.2	23.8	24.5	23.8	23.1	22.4	21.8	21.0
82.5°	16.8	17.5	17.5	16.8	16.1	16.1	16.1	15.4	15.4	14.7	14.1
85°	9.9	9.9	9.9	9.9	9.1	9.1	9.1	8.4	8.4	8.4	7.7
87.5°	4.2	4.2	4.2	4.2	4.2	4.2	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0
2.5°	521.7	520.2	519.5	518.8	518.8	518.2	517.5	516.0	516.0	514.6	514.0
5°	524.4	522.3	520.9	519.5	518.8	517.5	516.0	514.0	513.3	511.1	509.0
7.5°	525.2	521.7	520.2	517.5	516.0	514.6	511.8	509.8	506.9	504.8	502.1
10°	522.3	519.5	516.0	512.5	511.8	509.8	505.6	502.7	499.2	496.4	492.2
12.5°	518.2	514.0	510.4	506.2	504.1	502.1	497.9	493.7	488.7	483.8	479.6
15°	511.1	506.2	501.4	496.4	493.7	491.5	486.6	481.8	476.8	470.5	466.3
17.5°	500.6	495.0	490.2	483.8	481.0	478.9	472.6	467.0	460.7	454.4	450.1
20°	487.3	480.3	474.7	467.7	465.7	462.2	455.8	449.5	442.5	435.5	430.6
22.5°	469.9	462.8	456.5	449.5	446.1	442.5	436.2	428.5	421.5	415.9	411.0
25°	449.5	443.2	435.5	429.2	425.0	420.8	413.8	407.5	401.2	392.8	387.9
27.5°	427.1	419.4	413.8	405.4	401.2	398.3	390.6	382.2	376.7	369.0	363.4
30°	401.9	394.9	388.6	380.2	376.0	373.2	366.1	358.4	352.9	345.2	339.6
32.5°	375.3	367.6	359.9	354.2	349.4	346.5	338.8	334.0	326.9	320.7	314.3
35°	346.5	338.8	333.3	325.6	322.7	320.0	313.7	307.4	301.1	295.5	290.5
37.5°	315.8	310.1	303.9	298.2	296.2	293.4	285.7	280.1	275.1	269.6	265.4
40°	285.7	280.8	276.6	270.9	267.4	265.4	259.8	254.8	249.3	245.8	241.6
42.5°	258.3	252.8	248.6	244.4	240.9	238.7	233.9	230.3	226.1	222.6	217.8
45°	229.7	226.8	222.0	218.4	216.4	213.6	210.1	205.9	202.3	199.5	196.0
47.5°	204.5	201.7	198.1	194.0	192.6	190.4	186.9	184.1	181.4	178.5	175.0
50°	181.4	177.9	175.0	172.2	170.8	168.8	165.3	163.8	161.8	158.9	156.9
52.5°	160.3	157.6	154.7	151.2	150.5	149.2	147.0	144.2	142.1	140.8	139.3
55°	141.5	138.6	136.5	133.8	133.1	131.6	128.9	127.4	126.1	124.6	123.2
57.5°	124.6	121.9	119.0	117.7	116.2	114.8	114.1	112.0	110.6	110.0	108.5
60°	109.3	106.4	104.3	102.2	101.6	100.8	99.4	98.1	96.6	95.2	94.5
62.5°	94.5	91.7	90.3	88.9	87.5	87.5	86.1	84.7	83.3	82.6	81.3
65°	81.3	79.8	77.8	75.6	74.9	74.9	72.8	72.1	71.4	70.1	68.6
67.5°	68.6	67.2	65.1	64.4	63.7	63.0	62.3	60.9	59.5	58.8	57.5
70°	57.5	56.0	54.6	54.0	53.2	52.5	51.1	50.4	49.0	48.3	47.6
72.5°	46.2	45.6	44.1	43.4	42.7	42.1	41.3	40.6	39.2	38.5	37.9
75°	37.1	36.4	35.0	34.3	33.7	33.7	32.9	31.5	30.8	30.8	30.0
77.5°	28.0	27.3	26.6	26.0	25.2	25.2	24.5	23.8	23.1	23.1	22.4
80°	20.3	19.6	18.9	18.9	18.9	18.2	17.5	17.5	16.8	16.8	16.1
82.5°	13.3	13.3	12.6	12.6	12.6	11.9	11.9	11.2	11.2	11.2	11.2
85°	7.7	7.7	7.7	7.0	7.0	7.0	7.0	7.0	7.0	6.3	7.0
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	2.8	2.8	2.8
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°	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0
2.5°	513.3	512.5	511.1	511.1	509.8	509.8	509.0	508.3	507.6	506.9	506.2
5°	508.3	505.6	504.1	503.4	502.1	501.4	499.2	497.9	497.1	495.7	494.3
7.5°	499.2	496.4	493.7	492.9	492.2	489.5	487.3	485.2	483.8	482.4	481.0
10°	488.7	486.0	482.4	481.0	479.6	476.1	473.3	471.2	468.4	465.7	464.9
12.5°	476.1	471.9	467.7	466.3	464.2	460.7	458.0	454.4	452.3	448.8	448.1
15°	461.4	456.5	453.0	449.5	448.1	444.6	439.7	436.9	432.7	431.3	427.8
17.5°	443.9	439.0	434.2	432.7	430.6	425.7	420.8	417.3	413.1	411.0	408.9
20°	425.7	419.4	414.4	413.1	410.2	406.2	401.2	397.7	394.1	390.0	387.9
22.5°	404.7	397.7	393.5	390.0	389.3	384.4	378.8	376.0	373.2	369.7	366.9
25°	381.6	375.3	370.3	367.6	366.1	362.0	357.8	354.2	350.1	348.0	344.5
27.5°	357.8	353.6	347.3	344.5	342.3	338.8	334.0	331.9	327.7	324.9	322.7
30°	334.6	328.4	324.9	321.4	319.3	315.8	311.6	309.5	306.0	303.1	301.1
32.5°	309.5	305.3	300.4	298.9	296.2	292.7	289.9	286.3	283.6	280.8	280.1
35°	286.3	280.8	275.9	274.4	272.4	268.9	267.4	265.4	261.9	261.2	258.3
37.5°	261.2	258.3	252.8	250.6	250.0	247.1	244.4	242.9	240.9	238.7	238.1
40°	237.4	233.9	231.0	229.0	227.5	225.5	222.6	222.0	220.6	217.8	217.1
42.5°	214.9	211.4	208.7	207.9	205.9	203.7	202.3	200.3	199.5	198.8	197.5
45°	193.3	191.1	188.4	187.6	186.9	184.1	182.7	181.4	179.9	179.2	177.9
47.5°	173.7	171.5	169.5	168.8	167.3	166.6	164.6	163.8	161.8	161.1	160.3
50°	154.7	153.4	151.9	151.2	149.9	149.2	147.7	146.3	145.0	144.2	143.5
52.5°	138.0	136.5	135.1	134.4	133.8	132.3	130.9	129.6	128.9	128.1	127.4
55°	121.9	120.4	119.7	119.0	118.3	117.7	115.5	114.8	114.1	113.5	112.0
57.5°	107.1	105.8	104.3	104.3	103.6	102.9	101.6	100.1	100.1	98.7	97.4
60°	93.9	92.4	91.0	90.3	89.7	88.2	87.5	86.8	86.1	85.5	84.0
62.5°	79.8	79.1	77.8	77.8	76.3	75.6	74.9	74.2	73.6	72.1	71.4
65°	67.9	67.2	65.9	65.1	65.1	64.4	63.0	62.3	61.7	61.7	60.9
67.5°	56.7	56.0	54.6	54.0	54.0	53.2	52.5	52.5	51.8	51.1	51.8
70°	46.9	45.6	45.6	44.8	44.8	44.1	43.4	43.4	43.4	44.1	44.1
72.5°	37.1	36.4	35.7	35.7	35.7	35.7	35.0	35.0	35.7	36.4	36.4
75°	29.4	28.7	28.7	28.7	28.0	28.0	28.7	28.7	29.4	29.4	29.4
77.5°	21.8	21.8	21.8	21.8	21.8	21.8	22.4	22.4	23.1	23.1	23.1
80°	16.1	16.1	16.1	16.1	16.1	16.8	16.8	16.8	16.8	16.8	17.5
82.5°	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.9	11.9	11.9	11.9
85°	6.3	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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°	516.0	516.0	516.0	516.0	516.0	516.0	516.0	516.0
2.5°	505.6	505.6	505.6	506.2	504.8	504.8	504.8	504.8
5°	493.7	492.9	492.2	492.9	491.5	491.5	490.8	490.8
7.5°	478.9	478.2	477.6	477.6	476.1	476.1	475.4	474.7
10°	462.8	461.4	462.2	460.7	460.0	459.3	458.6	458.0
12.5°	445.3	443.9	443.2	441.9	440.4	439.7	440.4	439.0
15°	426.3	424.3	423.6	422.1	420.8	420.1	420.1	419.4
17.5°	405.4	404.0	403.3	401.9	401.2	399.8	399.1	398.3
20°	385.8	382.2	383.0	381.6	380.9	378.1	378.1	378.8
22.5°	364.1	362.0	360.6	359.2	358.4	357.1	357.1	356.4
25°	342.3	340.3	339.6	338.1	337.5	336.1	335.4	335.4
27.5°	321.4	318.5	318.5	317.2	315.8	315.0	314.3	313.7
30°	298.9	296.9	296.2	296.2	295.5	295.5	293.4	294.1
32.5°	278.0	276.6	275.9	274.4	274.4	273.8	273.8	271.7
35°	257.0	254.8	255.5	254.1	253.5	252.8	253.5	252.8
37.5°	236.7	235.2	235.2	233.9	233.9	233.2	232.5	233.9
40°	216.4	215.6	214.9	214.2	214.9	214.2	212.9	213.6
42.5°	196.0	196.0	195.3	195.3	194.6	194.6	194.6	194.6
45°	177.9	177.2	177.2	176.5	176.5	176.5	176.5	175.7
47.5°	159.6	158.9	158.9	158.9	158.2	158.2	157.6	158.2
50°	142.1	142.1	141.5	141.5	142.1	141.5	140.8	140.8
52.5°	126.1	126.1	125.4	125.4	124.6	123.9	124.6	124.6
55°	111.3	110.6	110.0	110.0	109.3	108.5	108.5	109.3
57.5°	97.4	96.6	95.9	95.9	94.5	93.9	93.9	93.9
60°	84.0	82.6	82.6	82.0	82.0	81.3	81.3	81.3
62.5°	71.4	70.7	70.7	70.7	70.7	70.1	70.1	70.1
65°	60.9	60.9	60.9	61.7	61.7	62.3	62.3	62.3
67.5°	52.5	53.2	53.2	53.2	54.0	54.0	54.0	53.2
70°	44.8	44.8	44.8	45.6	45.6	45.6	45.6	45.6
72.5°	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1
75°	29.4	30.0	30.0	30.0	29.4	30.0	30.0	29.4
77.5°	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1
80°	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
82.5°	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
85°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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)