

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: P583770

Luminaire Tested: **HC810D010-HM80520927-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583770
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC810D010-HM80520927-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 900.4 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

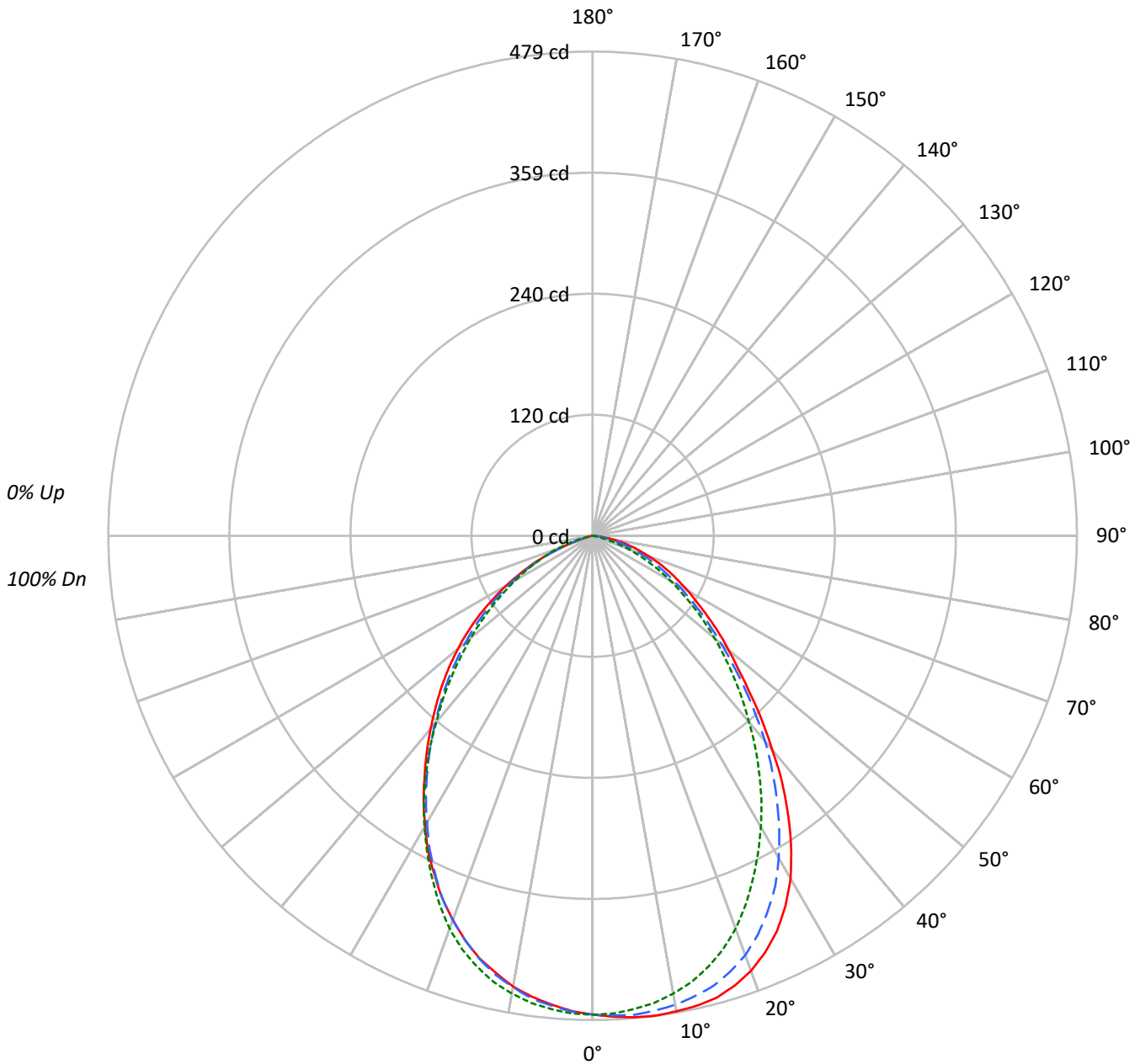
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	85	82	79	77			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52			
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	14607	14607	14607
5°	14802	14548	14409
10°	14955	14400	14181
15°	15103	14094	13810
20°	15029	13572	13261
25°	14678	12759	12589
30°	13940	11846	11800
35°	12694	10811	10906
40°	11130	9677	10031
45°	9598	8608	9215
50°	8410	7556	8342
55°	7446	6494	7349
60°	6710	5464	6087
65°	6041	4385	4655
70°	5301	3201	2570
75°	4527	1656	667
80°	3481	444	107
85°	2264	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.7	5.0
10°-20°	125.7	14.0
20°-30°	178.4	19.8
30°-40°	187.7	20.9
40°-50°	159.7	17.7
50°-60°	115.4	12.8
60°-70°	65.6	7.3
70°-80°	20.7	2.3
80°-90°	2.5	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°	348.7	38.7
0°-40°	536.4	59.6
0°-60°	811.6	90.1
0°-90°	900.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	900.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	474	474	474	474	474	
5°	478	476	470	467	466	46
15°	473	461	442	433	433	133
25°	431	410	375	369	370	198
35°	337	318	287	285	290	210
45°	220	212	197	202	211	171
55°	138	128	121	128	137	125
65°	83	72	60	60	64	82
75°	38	29	14	6	6	41
85°	6	4	0	0	0	8
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°	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7
2.5°	476.2	477.0	475.6	475.6	477.0	475.6	476.2	476.2	475.6	475.6	475.0
5°	478.2	477.6	477.6	477.6	478.2	477.0	476.2	477.0	475.6	475.6	475.6
7.5°	478.8	478.8	478.2	477.6	477.6	477.6	477.0	476.2	475.6	474.4	473.7
10°	477.6	477.6	478.2	477.0	477.0	475.6	475.6	474.4	474.4	473.1	471.2
12.5°	476.2	475.6	475.6	474.4	474.4	473.1	473.1	471.2	470.6	468.7	466.7
15°	473.1	472.5	471.2	470.6	470.0	469.3	468.1	467.5	465.5	463.0	461.1
17.5°	466.7	466.1	465.5	464.2	463.0	462.4	461.7	459.9	457.4	455.4	452.2
20°	458.0	457.4	457.4	455.4	454.7	452.9	452.2	449.7	447.9	444.0	441.5
22.5°	445.9	446.5	445.3	444.0	442.7	440.9	439.6	437.0	433.9	430.1	427.0
25°	431.4	432.0	430.7	429.5	427.6	426.3	425.0	421.3	418.1	413.6	409.9
27.5°	413.0	413.0	413.0	411.8	408.6	408.0	406.8	402.9	398.5	394.7	390.9
30°	391.5	390.9	390.9	389.0	387.8	385.2	383.3	380.2	376.9	372.5	368.2
32.5°	365.6	366.2	364.3	363.0	361.2	361.2	358.7	356.2	352.3	347.9	343.4
35°	337.2	337.8	336.4	335.8	332.7	332.1	331.4	328.3	325.7	322.6	317.6
37.5°	308.1	307.4	306.8	306.8	304.8	303.6	302.3	300.5	296.7	294.1	291.6
40°	276.5	276.5	276.5	275.7	275.1	273.8	273.2	272.0	269.5	267.0	265.0
42.5°	248.0	248.0	247.3	246.7	245.4	246.0	244.7	243.5	241.0	239.1	237.9
45°	220.1	220.1	220.1	220.7	219.5	217.6	217.6	216.4	215.0	213.8	211.9
47.5°	195.4	197.4	196.0	195.4	196.0	193.5	193.5	192.3	191.0	189.8	187.3
50°	175.3	175.3	175.3	173.9	173.3	173.3	171.4	170.2	169.5	168.3	165.8
52.5°	156.9	155.5	155.5	154.9	154.3	153.0	153.0	151.8	149.3	148.0	146.2
55°	138.5	138.5	137.9	137.3	136.7	135.9	135.3	133.4	132.2	130.3	128.4
57.5°	122.1	123.3	122.7	121.4	120.2	120.2	118.9	117.7	115.8	113.8	111.9
60°	108.8	108.2	108.2	107.6	106.3	105.7	105.1	103.1	101.2	99.3	97.4
62.5°	94.8	94.8	94.8	93.6	92.3	91.7	91.1	89.8	87.3	85.3	84.1
65°	82.8	82.2	81.6	81.0	80.3	79.1	78.5	77.2	75.2	73.3	71.5
67.5°	70.8	70.2	70.2	69.6	67.7	67.1	67.1	65.1	63.2	61.3	59.5
70°	58.8	58.8	58.8	57.6	57.0	56.3	55.7	54.5	52.5	50.6	48.7
72.5°	48.7	48.1	48.1	47.5	45.6	45.0	44.2	43.0	41.1	39.9	38.6
75°	38.0	38.0	37.3	36.7	36.1	35.5	34.7	33.5	31.6	29.7	29.1
77.5°	29.1	28.5	28.5	27.9	26.6	26.0	26.0	24.6	22.7	21.5	20.2
80°	19.6	20.2	19.6	19.0	18.4	17.7	17.1	16.5	15.1	13.9	12.6
82.5°	12.0	12.6	12.0	12.0	11.4	10.7	10.7	9.5	8.9	8.2	7.6
85°	6.4	6.4	6.4	6.4	5.6	5.6	5.6	5.0	4.4	3.8	3.8
87.5°	1.9	2.5	1.9	1.9	1.9	1.9	1.9	1.9	1.3	1.3	1.3
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°	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7
2.5°	475.6	475.0	474.4	474.4	474.4	474.4	474.4	473.7	473.1	473.1	473.1
5°	474.4	474.4	474.4	473.7	473.1	473.1	471.9	471.2	470.6	470.0	469.3
7.5°	473.1	471.9	471.2	470.6	470.0	470.0	468.7	467.5	467.5	466.1	464.9
10°	469.3	468.7	467.5	466.1	465.5	464.9	463.6	461.7	461.1	459.9	458.6
12.5°	464.9	463.6	462.4	459.9	459.2	458.6	456.0	454.1	452.9	452.2	449.1
15°	459.2	456.6	454.7	451.6	451.0	449.7	447.9	445.9	443.4	441.5	440.2
17.5°	449.1	446.5	443.4	440.2	439.0	439.0	435.8	433.3	430.1	428.9	426.3
20°	437.0	433.9	431.4	427.6	425.6	423.8	421.9	418.1	415.5	413.6	410.5
22.5°	423.1	418.8	415.5	411.8	408.6	406.8	403.5	400.4	397.3	395.3	392.8
25°	405.4	401.6	396.5	392.8	390.9	388.4	384.5	381.4	378.3	375.0	373.8
27.5°	385.8	380.8	376.3	371.9	370.0	368.2	363.7	359.9	357.4	354.2	352.9
30°	364.3	359.3	354.2	350.4	348.5	345.3	342.8	338.4	335.2	332.7	329.6
32.5°	339.7	335.8	331.4	325.7	324.4	321.9	318.2	316.2	312.4	310.6	308.1
35°	313.1	310.6	306.1	301.7	299.8	298.6	295.3	291.6	289.1	287.2	285.8
37.5°	287.8	284.6	280.2	277.1	275.7	273.8	270.1	268.2	265.6	264.4	261.9
40°	260.6	257.5	254.2	252.4	250.5	249.2	246.7	244.7	242.2	240.4	239.7
42.5°	234.0	232.1	229.6	227.1	226.5	224.5	223.3	221.4	219.5	218.9	217.0
45°	210.0	208.1	205.5	203.0	202.4	201.1	200.5	198.6	197.4	197.4	197.4
47.5°	185.9	184.0	181.5	180.3	180.9	178.4	178.4	177.8	176.5	176.5	177.1
50°	164.4	161.9	161.3	160.0	158.8	157.5	158.2	156.3	156.3	157.5	156.9
52.5°	144.2	141.7	141.0	139.8	139.2	139.2	138.5	138.5	137.9	138.5	138.5
55°	125.8	123.9	122.7	121.4	120.8	120.8	120.8	120.2	119.6	120.8	121.4
57.5°	109.4	108.8	107.6	105.7	105.1	104.3	103.7	103.7	103.7	103.7	104.3
60°	94.8	93.6	92.3	90.4	90.4	89.8	89.2	88.6	88.6	88.6	88.6
62.5°	82.2	80.3	78.5	77.2	76.6	75.8	75.2	74.0	74.0	74.0	74.0
65°	69.6	67.7	66.5	65.1	63.8	63.8	62.6	62.0	60.7	60.1	58.8
67.5°	57.6	56.3	55.1	53.1	52.5	51.8	50.6	50.0	48.1	47.5	46.8
70°	46.8	45.0	43.6	42.4	41.7	40.5	39.2	38.0	36.7	35.5	34.1
72.5°	36.7	34.7	33.5	32.2	31.0	31.0	29.1	27.9	26.0	24.6	22.7
75°	27.2	25.2	24.0	22.1	21.5	20.9	19.0	17.7	15.9	13.9	12.6
77.5°	18.4	17.1	15.9	13.9	12.6	12.6	10.7	9.5	8.2	6.4	5.6
80°	11.4	10.1	8.9	7.6	7.6	6.4	5.6	4.4	3.1	2.5	1.9
82.5°	6.4	5.6	5.0	3.8	3.8	3.1	2.5	1.9	1.3	0.6	0.6
85°	3.1	2.5	1.9	1.9	1.3	1.3	1.3	0.6	0.6	0.0	0.0
87.5°	1.3	0.6	0.6	0.6	0.6	0.6	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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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7
2.5°	472.5	472.5	471.9	471.9	471.9	471.2	471.9	471.2	471.2	471.2	471.9
5°	470.0	468.7	468.7	468.1	468.1	467.5	468.1	467.5	466.7	466.1	466.7
7.5°	464.9	463.6	463.0	462.4	462.4	462.4	461.7	461.1	461.7	459.9	461.1
10°	458.0	457.4	456.0	455.4	454.7	455.4	454.7	453.5	453.5	453.5	452.9
12.5°	449.1	447.9	447.1	446.5	445.3	445.3	445.9	444.6	444.6	443.4	443.4
15°	438.4	437.0	435.8	435.8	434.5	434.5	433.9	433.9	433.3	432.6	432.6
17.5°	425.0	423.1	421.9	422.5	421.9	421.3	421.3	420.0	419.4	420.0	420.0
20°	409.3	408.0	406.8	407.4	406.0	405.4	406.0	404.1	404.8	404.8	404.8
22.5°	391.5	390.9	389.0	389.0	387.8	387.0	387.8	387.8	388.4	387.8	387.8
25°	371.9	370.7	369.4	369.4	368.8	368.2	368.8	369.4	368.8	369.4	369.4
27.5°	351.0	349.2	349.2	347.9	347.9	348.5	347.9	348.5	349.2	349.2	350.4
30°	328.3	327.7	327.1	326.3	326.3	327.1	327.1	327.1	327.7	328.9	328.9
32.5°	306.8	305.5	304.2	304.2	305.5	304.8	305.5	305.5	306.8	306.8	308.1
35°	283.3	283.3	282.1	282.7	282.7	282.7	282.7	284.0	285.2	285.8	287.2
37.5°	261.9	260.0	260.6	260.6	261.2	260.6	262.5	262.5	263.7	263.7	265.0
40°	238.5	238.5	239.1	238.5	239.1	239.1	240.4	241.6	242.2	243.5	244.1
42.5°	216.4	217.6	216.4	217.0	217.6	218.2	218.9	219.5	222.0	223.3	225.1
45°	196.0	196.8	197.4	198.0	197.4	198.6	199.3	200.5	202.4	203.0	203.6
47.5°	176.5	177.1	177.8	178.4	178.4	179.6	180.3	181.5	182.8	183.4	184.0
50°	157.5	158.8	159.4	159.4	160.0	161.3	162.5	162.5	163.8	165.8	166.4
52.5°	140.4	140.4	141.7	142.3	142.9	142.9	144.8	145.4	146.2	147.4	148.7
55°	121.4	123.3	123.9	123.9	125.2	126.5	127.2	127.8	127.8	130.3	130.3
57.5°	105.1	105.7	106.9	106.9	106.9	108.8	108.8	110.1	110.7	111.3	112.6
60°	88.6	89.8	89.8	90.4	89.8	91.1	91.7	93.0	93.6	94.2	94.8
62.5°	73.3	73.3	74.0	74.0	74.0	74.0	75.2	75.2	76.6	77.2	77.8
65°	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	59.5	59.5	60.7
67.5°	45.6	45.0	43.6	44.2	43.6	43.6	43.0	43.0	43.6	43.6	45.0
70°	32.9	32.2	31.0	31.0	30.4	29.7	29.1	28.5	27.9	27.9	27.9
72.5°	21.5	20.2	18.4	17.7	17.7	16.5	15.1	14.5	14.5	14.5	14.5
75°	10.7	9.5	8.2	7.6	7.6	6.4	7.0	6.4	6.4	6.4	6.4
77.5°	4.4	3.1	2.5	2.5	2.5	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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-HM80520927-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	473.7	473.7	473.7	473.7	473.7	473.7	473.7	473.7
2.5°	471.2	471.2	470.0	470.6	470.6	470.6	470.6	470.6
5°	465.5	466.1	465.5	466.1	466.1	465.5	465.5	465.5
7.5°	459.9	460.5	459.9	460.5	460.5	460.5	459.9	459.9
10°	452.9	452.9	452.9	452.9	452.9	452.2	452.9	452.9
12.5°	443.4	443.4	443.4	444.0	444.0	443.4	443.4	442.7
15°	433.3	432.0	432.6	433.3	432.6	432.6	432.6	432.6
17.5°	419.4	420.0	419.4	419.4	419.4	419.4	420.0	419.4
20°	404.8	404.8	405.4	404.8	404.8	404.8	404.8	404.1
22.5°	388.4	387.8	387.8	388.4	388.4	387.8	388.4	388.4
25°	370.0	370.7	370.0	370.0	370.7	370.7	370.7	370.0
27.5°	350.4	351.0	351.7	351.0	351.0	351.0	351.7	352.3
30°	330.2	331.4	330.2	330.2	331.4	330.8	331.4	331.4
32.5°	308.7	310.6	309.3	310.6	310.6	311.2	310.6	311.2
35°	287.2	289.1	289.1	289.1	289.7	290.3	290.3	289.7
37.5°	267.0	267.6	267.6	268.8	269.5	270.1	270.1	269.5
40°	246.0	247.3	248.0	248.0	248.0	249.2	250.5	249.2
42.5°	225.9	226.5	227.1	227.1	228.4	229.0	229.6	229.6
45°	206.1	207.5	208.1	208.7	209.4	210.6	210.0	211.3
47.5°	185.9	187.9	188.5	189.1	190.4	191.0	191.6	192.3
50°	167.6	168.9	168.9	170.2	172.0	172.0	173.3	173.9
52.5°	149.3	149.9	150.5	151.2	152.4	153.7	153.7	154.9
55°	131.6	132.2	132.2	132.8	133.4	135.9	136.7	136.7
57.5°	113.2	113.2	114.4	115.2	115.8	117.0	117.0	117.0
60°	95.6	96.2	96.2	96.8	97.4	98.7	99.3	98.7
62.5°	77.8	78.5	78.5	79.1	80.3	81.0	80.3	80.3
65°	61.3	62.0	62.0	62.6	63.8	63.8	63.2	63.8
67.5°	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
70°	28.5	27.9	27.2	27.9	27.9	27.9	27.2	28.5
72.5°	13.9	14.5	14.5	14.5	14.5	14.5	14.5	13.9
75°	6.4	6.4	5.6	5.6	5.6	6.4	6.4	5.6
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)