

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: P583743

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583743
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC810D010-HM80520835-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1004.0 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

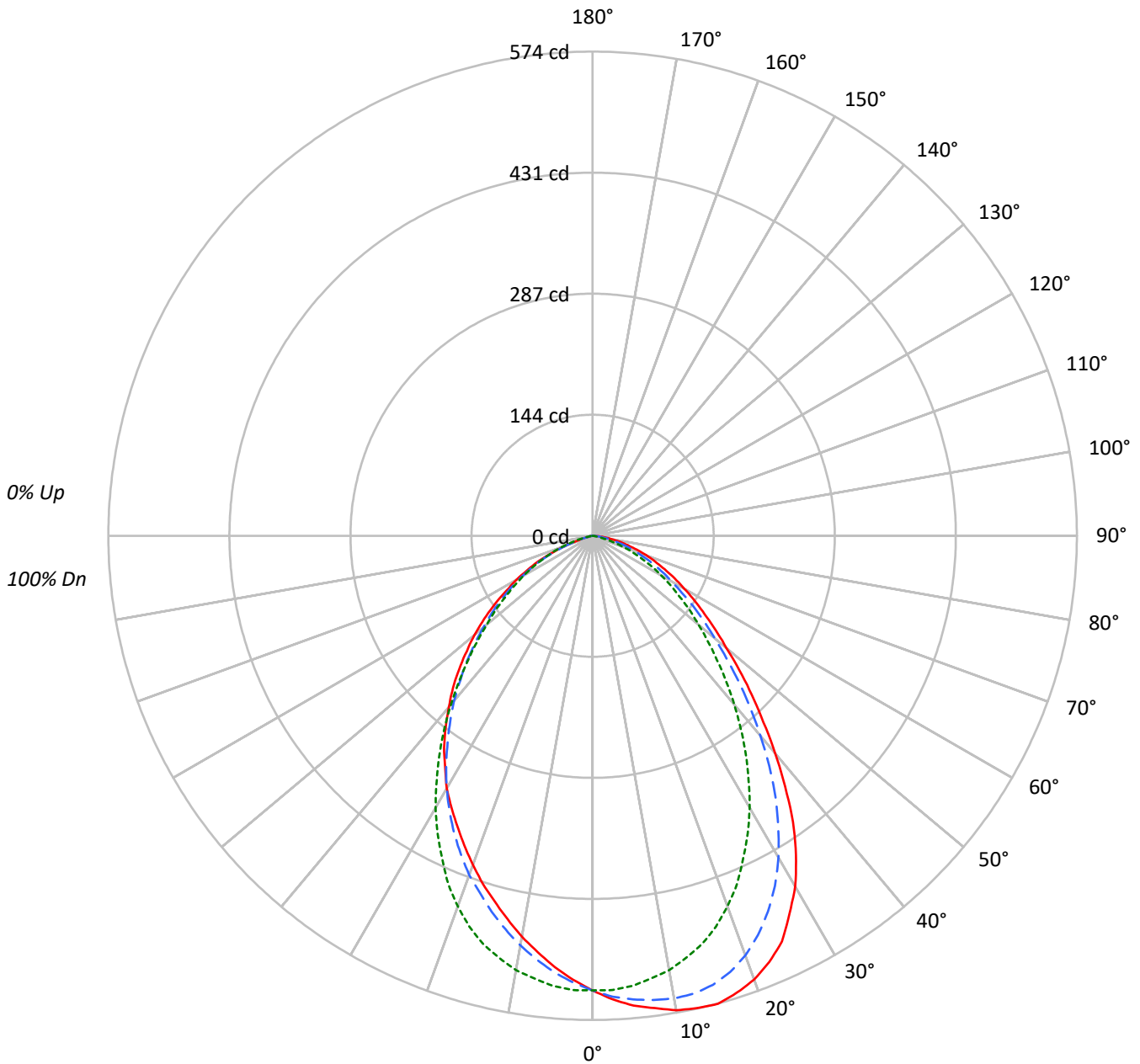
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47																			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43																			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39																			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	16621	16621	16621
5°	17310	16582	15889
10°	17885	16373	15111
15°	18337	15997	14324
20°	18373	15335	13615
25°	18063	14362	12912
30°	17098	13256	12309
35°	15588	11918	11557
40°	13558	10510	10667
45°	11631	9101	9764
50°	9935	7848	8774
55°	8704	6758	7623
60°	7752	5766	6414
65°	6873	4699	5115
70°	6104	3489	2903
75°	5087	1823	858
80°	4013	568	142
85°	2866	283	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.8	5.1
10°-20°	142.3	14.2
20°-30°	201.5	20.1
30°-40°	210.8	21.0
40°-50°	175.8	17.5
50°-60°	124.7	12.4
60°-70°	71.8	7.2
70°-80°	23.1	2.3
80°-90°	3.2	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°	394.6	39.3
0°-40°	605.4	60.3
0°-60°	905.9	90.2
0°-90°	1004.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1004.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	539	539	539	539	539	
5°	559	552	536	520	513	54
15°	574	551	501	462	449	162
25°	531	492	422	388	380	242
35°	414	378	317	300	307	257
45°	267	245	209	211	224	207
55°	162	145	126	132	142	146
65°	94	79	64	64	70	94
75°	43	31	15	7	7	46
85°	8	4	1	0	0	10
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°	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0
2.5°	550.3	549.4	548.7	549.4	548.7	549.4	548.7	548.7	547.9	547.0	547.0
5°	559.2	558.3	558.3	558.3	557.5	556.8	556.8	555.9	554.4	553.5	551.8
7.5°	564.8	565.5	565.5	565.5	564.0	564.0	562.4	560.7	559.2	557.5	555.1
10°	571.2	571.2	570.5	569.6	568.1	567.2	566.4	564.8	562.4	559.2	556.8
12.5°	573.6	573.6	572.9	571.2	570.5	569.6	568.8	566.4	563.1	559.2	555.9
15°	574.4	572.9	572.0	571.2	569.6	567.2	567.2	564.0	559.9	555.1	551.1
17.5°	568.1	568.8	567.2	565.5	563.1	561.6	559.2	556.8	551.8	546.3	542.2
20°	559.9	559.2	558.3	555.9	552.7	551.8	549.4	545.5	541.4	535.0	529.4
22.5°	547.0	546.3	544.6	543.1	539.8	538.3	535.7	530.9	525.3	518.9	512.4
25°	530.9	529.4	527.0	523.7	521.3	519.6	516.5	511.6	505.2	497.9	491.5
27.5°	505.2	507.6	505.9	501.1	498.7	495.5	494.7	488.3	482.6	475.4	468.1
30°	480.2	480.2	477.8	475.4	471.3	468.9	465.7	460.8	455.2	446.3	440.7
32.5°	448.7	448.0	444.7	443.9	440.7	435.8	435.1	428.6	423.0	416.5	409.3
35°	414.1	412.5	409.3	406.9	405.3	402.8	400.4	394.7	389.1	382.7	377.9
37.5°	374.7	374.7	373.8	369.9	368.2	366.6	364.2	358.6	355.3	348.8	344.0
40°	336.8	336.0	333.6	332.7	331.2	328.7	327.1	323.9	319.0	314.2	309.4
42.5°	299.7	300.5	297.3	298.1	294.9	293.3	292.4	287.6	285.2	280.4	276.3
45°	266.7	265.9	264.3	263.5	261.8	260.2	258.7	256.3	252.2	247.4	245.0
47.5°	236.1	233.7	233.7	232.8	232.0	228.9	228.0	225.6	223.2	218.3	215.2
50°	207.1	207.1	207.1	206.3	203.9	203.0	201.5	199.1	196.5	193.4	188.5
52.5°	183.7	183.7	183.7	182.9	179.7	178.9	178.0	174.9	171.6	169.2	166.0
55°	161.9	162.8	161.9	160.3	157.9	157.9	155.5	153.9	150.6	148.2	145.1
57.5°	143.4	143.4	141.8	141.0	139.4	138.6	136.9	135.3	131.4	128.9	124.9
60°	125.7	124.9	124.9	123.3	121.6	120.1	119.2	116.8	115.3	111.2	107.9
62.5°	109.6	109.6	107.9	107.9	104.7	104.7	104.0	101.6	99.0	95.1	93.5
65°	94.2	94.2	93.5	92.7	90.3	89.4	88.6	86.2	83.8	81.4	79.0
67.5°	80.5	80.5	79.0	78.1	76.6	75.7	74.2	72.5	70.1	67.7	65.3
70°	67.7	66.8	66.1	65.3	63.7	62.9	61.2	59.6	57.2	55.5	53.1
72.5°	54.8	54.8	54.0	52.4	51.6	50.7	50.0	48.3	45.9	43.5	41.9
75°	42.7	42.7	42.7	41.1	39.4	38.7	38.7	37.0	35.5	33.1	31.4
77.5°	33.1	32.2	31.4	31.4	29.8	29.0	28.2	27.4	25.0	24.2	22.6
80°	22.6	23.3	22.6	21.8	20.9	20.2	20.2	18.5	17.7	16.1	14.5
82.5°	15.3	14.5	14.5	13.7	13.7	12.9	12.9	11.3	10.5	9.6	8.9
85°	8.1	8.1	7.2	7.2	7.2	6.5	6.5	5.6	5.6	4.8	4.1
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6
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°	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0
2.5°	546.3	544.6	543.8	543.8	543.1	542.2	541.4	540.7	539.0	539.0	537.4
5°	550.3	548.7	547.9	545.5	543.8	543.8	540.7	539.8	537.4	535.7	534.2
7.5°	553.5	550.3	547.9	545.5	543.8	542.2	539.0	535.7	532.6	529.4	527.7
10°	553.5	550.3	546.3	542.2	540.7	539.0	535.0	530.1	526.1	522.9	518.9
12.5°	551.8	547.0	542.2	539.0	535.7	533.3	528.5	523.7	518.9	512.4	509.2
15°	547.0	540.7	535.7	530.1	527.7	523.7	519.6	512.4	506.8	501.1	497.1
17.5°	537.4	529.4	523.7	518.1	514.0	511.6	505.2	498.7	492.2	485.8	481.0
20°	522.9	515.7	509.2	502.0	498.7	495.5	487.4	481.0	474.5	467.3	462.4
22.5°	505.2	497.9	489.1	483.4	478.5	474.5	467.3	460.0	453.6	447.1	440.7
25°	483.4	476.1	468.1	459.3	456.0	452.0	443.9	436.7	429.5	422.1	416.5
27.5°	460.0	450.4	443.9	434.3	431.0	427.1	418.2	410.1	403.6	398.0	391.6
30°	431.9	424.5	415.8	406.9	403.6	399.7	392.3	385.1	378.6	372.3	365.8
32.5°	401.2	394.0	385.1	378.6	373.8	370.6	363.4	356.9	350.5	344.0	338.4
35°	369.0	361.0	354.5	348.1	344.0	340.0	332.7	327.1	322.3	316.6	311.0
37.5°	336.0	330.3	323.9	316.6	312.6	309.4	303.7	297.3	293.3	288.5	284.4
40°	303.7	297.3	291.6	285.2	282.0	279.6	273.9	269.1	265.0	261.1	258.7
42.5°	270.7	265.0	259.4	255.4	253.0	250.6	246.5	240.9	238.5	234.5	232.0
45°	240.0	235.2	231.3	225.6	223.9	222.4	217.6	213.5	211.1	208.7	207.1
47.5°	211.1	207.8	203.0	199.8	197.4	195.8	192.6	189.3	186.9	185.3	183.7
50°	186.1	182.1	178.9	175.6	174.0	171.6	168.4	166.7	165.2	163.6	163.6
52.5°	162.8	158.7	155.5	153.1	151.5	149.9	147.5	146.6	145.1	145.1	144.2
55°	141.0	138.6	135.3	132.1	131.4	130.5	128.9	127.3	126.5	125.7	126.5
57.5°	122.5	120.1	116.8	114.4	113.6	112.7	112.0	110.3	109.6	109.6	109.6
60°	105.5	103.1	100.7	98.3	98.3	96.6	95.9	95.1	94.2	93.5	93.5
62.5°	90.3	87.9	85.5	83.8	82.9	82.2	80.5	79.8	79.0	79.0	78.1
65°	76.6	73.3	72.5	70.1	69.2	68.5	67.7	66.1	65.3	64.4	63.7
67.5°	62.9	61.2	58.8	57.2	56.4	55.5	54.8	53.1	52.4	51.6	50.0
70°	50.7	49.2	47.5	45.9	45.1	44.4	42.7	41.1	40.3	38.7	36.3
72.5°	39.4	37.9	36.3	34.6	33.9	33.1	31.4	29.8	28.2	26.6	25.0
75°	29.8	28.2	25.7	24.2	23.3	23.3	20.9	19.4	17.7	15.3	13.7
77.5°	20.9	18.5	17.7	16.1	15.3	13.7	12.1	10.5	8.9	8.1	6.5
80°	13.7	12.1	10.5	9.6	8.9	8.1	7.2	5.6	4.1	3.2	2.4
82.5°	8.1	7.2	6.5	5.6	4.8	4.1	3.2	3.2	2.4	1.6	0.8
85°	4.1	3.2	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8	0.8
87.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	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°	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0
2.5°	536.6	535.7	535.0	534.2	534.2	532.6	532.6	531.8	530.1	529.4	529.4
5°	531.8	529.4	527.7	527.0	526.1	523.7	522.9	521.3	519.6	518.1	517.2
7.5°	524.6	520.5	518.9	518.1	515.7	513.3	511.6	509.2	506.8	504.4	503.5
10°	515.7	511.6	507.6	505.9	503.5	502.0	498.7	495.5	493.1	490.7	488.3
12.5°	504.4	499.6	495.5	493.9	491.5	488.3	483.4	481.8	477.8	476.1	473.0
15°	491.5	485.8	481.8	479.4	477.0	472.1	468.9	465.7	461.7	460.0	456.9
17.5°	475.4	468.9	464.9	462.4	460.8	456.9	452.0	448.0	443.9	442.3	439.9
20°	456.0	452.0	446.3	443.9	442.3	437.5	432.6	431.0	427.8	424.5	422.1
22.5°	434.3	430.2	424.5	422.1	421.4	417.3	413.4	410.8	408.4	406.0	403.6
25°	411.7	406.9	402.1	400.4	398.8	395.6	392.3	390.8	388.4	386.7	385.1
27.5°	387.5	382.7	378.6	376.2	374.7	372.3	370.6	369.0	367.5	365.8	364.9
30°	361.8	356.9	353.7	352.1	350.5	349.7	347.3	346.4	345.7	344.0	344.9
32.5°	336.0	332.0	328.7	326.3	326.3	324.7	323.9	323.9	323.1	323.1	323.1
35°	307.7	305.3	302.9	302.2	301.3	300.5	299.7	300.5	299.7	300.5	301.3
37.5°	282.0	279.6	277.9	277.2	276.3	277.2	276.3	276.3	277.2	278.7	279.6
40°	255.4	253.7	252.2	253.0	252.2	252.2	252.2	254.6	255.4	256.3	257.0
42.5°	230.4	228.9	228.0	228.0	228.9	228.0	229.6	230.4	232.0	234.5	236.1
45°	206.3	205.4	205.4	206.3	205.4	207.1	207.1	208.7	211.1	212.8	214.3
47.5°	183.7	183.7	183.7	184.5	184.5	185.3	186.9	187.8	189.3	191.0	192.6
50°	162.8	163.6	164.3	164.3	164.3	166.0	167.6	168.4	169.2	170.0	172.4
52.5°	144.2	145.1	145.1	145.8	146.6	147.5	148.2	149.9	150.6	152.3	153.1
55°	126.5	126.5	128.1	128.9	128.9	128.9	130.5	130.5	132.1	132.9	134.5
57.5°	109.6	110.3	110.3	111.2	111.2	112.0	112.7	113.6	114.4	115.3	116.0
60°	93.5	93.5	93.5	94.2	95.1	95.9	95.1	96.6	96.6	98.3	99.0
62.5°	78.1	79.0	79.0	79.0	79.0	79.0	79.0	79.8	80.5	81.4	82.2
65°	63.7	63.7	63.7	62.9	63.7	62.9	63.7	64.4	64.4	65.3	66.1
67.5°	49.2	49.2	47.5	47.5	48.3	48.3	48.3	48.3	47.5	49.2	49.2
70°	35.5	34.6	33.9	33.1	33.1	32.2	32.2	31.4	31.4	31.4	31.4
72.5°	23.3	21.8	20.2	19.4	18.5	18.5	16.9	16.1	16.9	16.9	16.9
75°	12.1	10.5	9.6	8.9	8.1	8.1	7.2	7.2	7.2	7.2	7.2
77.5°	4.8	4.1	3.2	3.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.8	0.0	0.0	0.8	0.0	0.8	0.8	0.8	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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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	539.0	539.0	539.0	539.0	539.0	539.0	539.0	539.0
2.5°	528.5	528.5	527.7	528.5	527.0	527.7	527.0	527.0
5°	516.5	514.8	514.8	514.8	514.0	514.0	513.3	513.3
7.5°	502.0	501.1	500.3	499.6	498.7	497.9	497.9	497.9
10°	487.4	485.8	485.8	485.0	483.4	482.6	482.6	482.6
12.5°	470.5	469.7	468.9	468.9	465.7	466.5	465.7	465.7
15°	454.4	453.6	453.6	451.2	449.5	449.5	449.5	448.7
17.5°	437.5	436.7	435.8	434.3	432.6	432.6	431.9	432.6
20°	419.7	418.9	417.3	417.3	416.5	415.8	414.1	414.9
22.5°	402.1	400.4	399.7	399.7	398.8	398.8	397.3	397.3
25°	383.6	382.7	381.9	382.7	381.0	381.0	379.5	379.5
27.5°	364.2	363.4	363.4	363.4	362.5	363.4	362.5	362.5
30°	344.9	344.9	344.0	344.0	344.9	344.0	344.9	345.7
32.5°	323.9	323.9	324.7	324.7	325.5	325.5	325.5	325.5
35°	302.2	303.7	303.7	304.6	305.3	306.1	306.1	307.0
37.5°	282.0	282.8	283.6	284.4	286.1	286.1	286.1	286.1
40°	260.2	261.1	262.6	261.8	265.0	265.9	265.0	265.0
42.5°	237.6	239.3	240.0	241.7	242.6	244.1	245.0	245.0
45°	216.7	217.6	219.1	220.8	221.5	223.9	223.9	223.9
47.5°	195.0	196.5	197.4	199.1	199.8	202.2	203.0	202.2
50°	174.0	175.6	177.3	177.3	179.7	180.4	182.1	182.9
52.5°	153.9	154.7	156.3	157.1	158.7	160.3	161.2	161.9
55°	134.5	135.3	136.9	136.9	139.4	140.2	141.8	141.8
57.5°	116.8	117.7	119.2	118.4	120.1	121.6	121.6	120.8
60°	99.9	99.9	99.9	101.6	102.3	103.1	104.0	104.0
62.5°	82.2	83.8	84.6	84.6	85.5	86.2	86.2	85.5
65°	66.1	67.7	68.5	68.5	69.2	69.2	69.2	70.1
67.5°	50.0	50.0	50.0	50.7	50.0	50.0	50.0	50.0
70°	31.4	31.4	31.4	31.4	30.7	31.4	31.4	32.2
72.5°	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9
75°	7.2	7.2	7.2	8.1	7.2	7.2	7.2	7.2
77.5°	3.2	2.4	3.2	3.2	2.4	2.4	2.4	2.4
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.0	0.8	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)