

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: P583811

Luminaire Tested: **HC810D010-HM80520935-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583811
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-HM80520935-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 921.4 lumens
Efficiency: N/A
Efficacy: 93.1 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

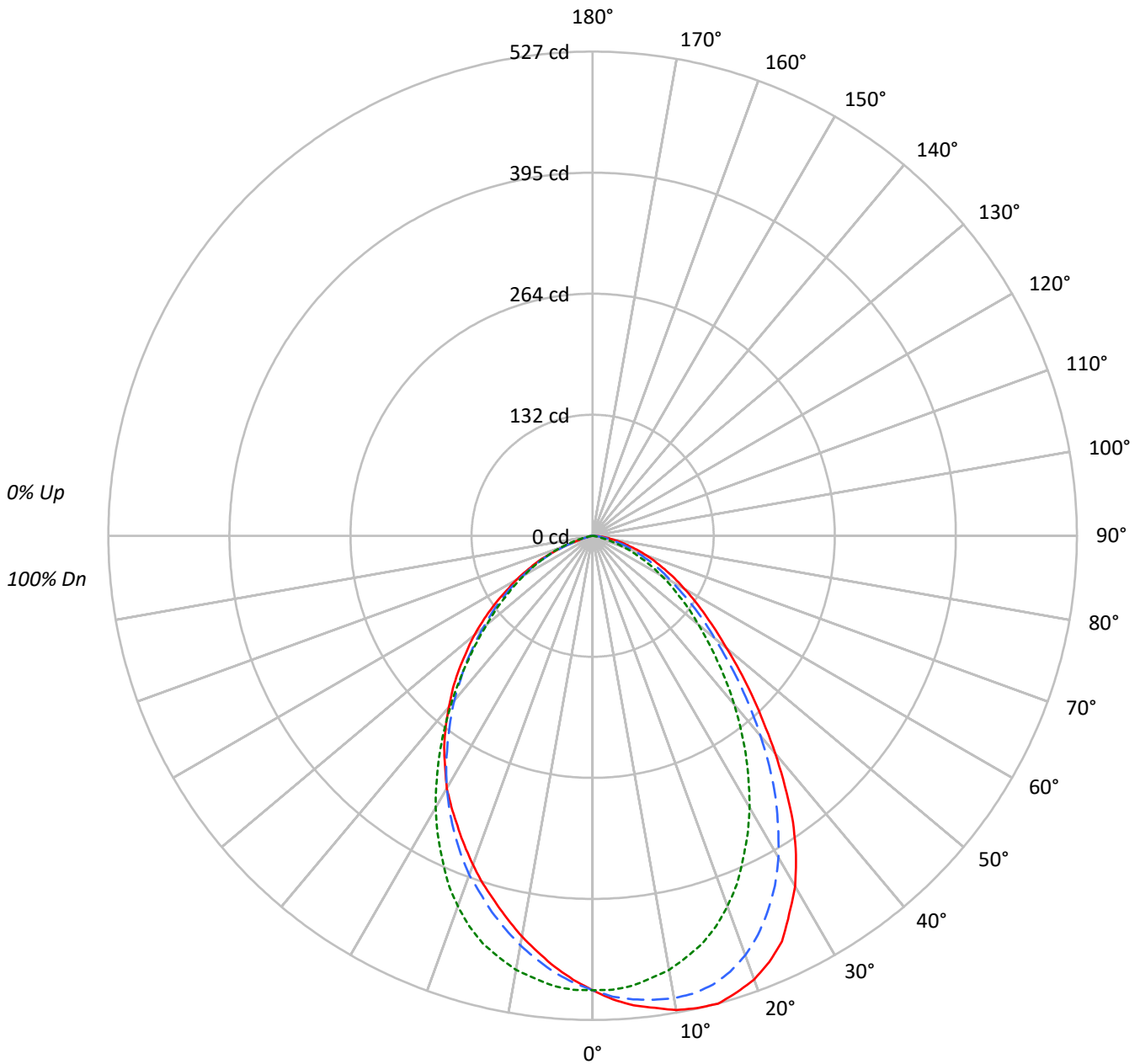
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15252	15252	15252
5°	15883	15220	14582
10°	16414	15024	13868
15°	16830	14682	13146
20°	16864	14074	12496
25°	16580	13181	11847
30°	15692	12163	11294
35°	14309	10939	10604
40°	12438	9645	9794
45°	10671	8351	8962
50°	9115	7201	8050
55°	7989	6204	7000
60°	7117	5292	5884
65°	6311	4312	4692
70°	5599	3201	2669
75°	4670	1680	786
80°	3676	533	124
85°	2654	248	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.6	5.1
10°-20°	130.6	14.2
20°-30°	184.9	20.1
30°-40°	193.5	21.0
40°-50°	161.4	17.5
50°-60°	114.4	12.4
60°-70°	65.9	7.2
70°-80°	21.2	2.3
80°-90°	2.9	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°	362.2	39.3
0°-40°	555.6	60.3
0°-60°	831.4	90.2
0°-90°	921.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	921.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	495	495	495	495	495	
5°	513	506	492	477	471	49
15°	527	506	460	424	412	148
25°	487	451	387	356	348	222
35°	380	347	291	275	282	236
45°	245	225	192	194	206	190
55°	149	133	115	121	130	134
65°	86	72	59	59	64	86
75°	39	29	14	7	7	42
85°	8	4	1	0	0	9
90°	0	0	0	0	0	



TEST NUMBER: P583811

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	505.1	504.2	503.5	504.2	503.5	504.2	503.5	503.5	502.8	502.1	502.1
5°	513.1	512.4	512.4	512.4	511.7	511.0	511.0	510.2	508.7	508.0	506.5
7.5°	518.3	519.0	519.0	519.0	517.6	517.6	516.1	514.7	513.1	511.7	509.4
10°	524.2	524.2	523.5	522.7	521.3	520.6	519.9	518.3	516.1	513.1	511.0
12.5°	526.5	526.5	525.8	524.2	523.5	522.7	522.0	519.9	516.9	513.1	510.2
15°	527.2	525.8	525.0	524.2	522.7	520.6	520.6	517.6	513.9	509.4	505.8
17.5°	521.3	522.0	520.6	519.0	516.9	515.4	513.1	511.0	506.5	501.4	497.6
20°	513.9	513.1	512.4	510.2	507.2	506.5	504.2	500.6	496.9	491.0	485.8
22.5°	502.1	501.4	499.8	498.3	495.5	493.9	491.7	487.3	482.1	476.2	470.2
25°	487.3	485.8	483.6	480.7	478.4	477.0	473.9	469.5	463.6	457.0	451.0
27.5°	463.6	465.9	464.3	459.9	457.7	454.7	454.0	448.1	442.9	436.2	429.6
30°	440.7	440.7	438.5	436.2	432.6	430.3	427.4	423.0	417.8	409.6	404.5
32.5°	411.8	411.1	408.2	407.5	404.5	400.0	399.3	393.4	388.2	382.2	375.6
35°	380.1	378.6	375.6	373.5	371.9	369.7	367.5	362.3	357.1	351.2	346.8
37.5°	343.8	343.8	343.1	339.4	337.9	336.4	334.3	329.0	326.1	320.2	315.8
40°	309.0	308.3	306.1	305.4	303.9	301.7	300.3	297.3	292.8	288.4	283.9
42.5°	275.0	275.9	272.9	273.6	270.6	269.1	268.4	264.0	261.8	257.3	253.6
45°	244.7	244.0	242.6	241.8	240.3	238.8	237.4	235.1	231.4	227.1	224.8
47.5°	216.6	214.4	214.4	213.7	213.0	210.0	209.3	207.0	204.8	200.4	197.4
50°	190.0	190.0	190.0	189.3	187.0	186.3	184.9	182.6	180.4	177.4	173.0
52.5°	168.6	168.6	168.6	167.8	164.9	164.2	163.5	160.5	157.5	155.3	152.3
55°	148.6	149.4	148.6	147.1	145.0	145.0	142.7	141.2	138.2	136.1	133.1
57.5°	131.6	131.6	130.2	129.5	127.9	127.2	125.7	124.2	120.6	118.3	114.6
60°	115.4	114.6	114.6	113.1	111.7	110.2	109.4	107.2	105.8	102.0	99.0
62.5°	100.6	100.6	99.0	99.0	96.2	96.2	95.4	93.2	91.0	87.3	85.8
65°	86.5	86.5	85.8	85.0	82.8	82.1	81.4	79.1	76.9	74.6	72.5
67.5°	73.9	73.9	72.5	71.8	70.2	69.5	68.0	66.6	64.3	62.1	59.9
70°	62.1	61.4	60.6	59.9	58.4	57.7	56.3	54.7	52.5	51.0	48.8
72.5°	50.2	50.2	49.5	48.1	47.4	46.6	45.8	44.4	42.2	39.9	38.5
75°	39.2	39.2	39.2	37.7	36.2	35.5	35.5	34.0	32.6	30.3	28.8
77.5°	30.3	29.6	28.8	28.8	27.4	26.6	25.8	25.1	23.0	22.2	20.7
80°	20.7	21.4	20.7	20.0	19.2	18.5	18.5	16.9	16.2	14.8	13.3
82.5°	14.1	13.3	13.3	12.6	12.6	11.8	11.8	10.3	9.6	8.9	8.2
85°	7.5	7.5	6.6	6.6	6.6	5.9	5.9	5.2	5.2	4.4	3.7
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.4	1.4	1.4
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°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	501.4	499.8	499.1	499.1	498.3	497.6	496.9	496.2	494.6	494.6	493.2
5°	505.1	503.5	502.8	500.6	499.1	499.1	496.2	495.5	493.2	491.7	490.3
7.5°	508.0	505.1	502.8	500.6	499.1	497.6	494.6	491.7	488.7	485.8	484.3
10°	508.0	505.1	501.4	497.6	496.2	494.6	491.0	486.6	482.8	479.8	476.2
12.5°	506.5	502.1	497.6	494.6	491.7	489.5	485.0	480.7	476.2	470.2	467.3
15°	502.1	496.2	491.7	486.6	484.3	480.7	477.0	470.2	465.1	459.9	456.3
17.5°	493.2	485.8	480.7	475.4	471.8	469.5	463.6	457.7	451.8	445.8	441.5
20°	479.8	473.2	467.3	460.6	457.7	454.7	447.4	441.5	435.5	428.9	424.4
22.5°	463.6	457.0	448.8	443.7	439.2	435.5	428.9	422.3	416.3	410.4	404.5
25°	443.7	437.0	429.6	421.4	418.5	414.8	407.5	400.7	394.1	387.4	382.2
27.5°	422.3	413.4	407.5	398.6	395.6	391.9	383.8	376.3	370.5	365.3	359.4
30°	396.3	389.7	381.5	373.5	370.5	366.7	360.1	353.4	347.5	341.6	335.7
32.5°	368.2	361.6	353.4	347.5	343.1	340.2	333.4	327.5	321.7	315.8	310.6
35°	338.6	331.3	325.4	319.4	315.8	312.0	305.4	300.3	295.8	290.6	285.5
37.5°	308.3	303.1	297.3	290.6	286.9	283.9	278.7	272.9	269.1	264.7	261.1
40°	278.7	272.9	267.7	261.8	258.8	256.6	251.5	247.0	243.3	239.6	237.4
42.5°	248.5	243.3	238.1	234.4	232.2	229.9	226.2	221.0	218.9	215.2	213.0
45°	220.3	215.9	212.3	207.0	205.5	204.1	199.7	195.9	193.8	191.5	190.0
47.5°	193.8	190.8	186.3	183.4	181.1	179.7	176.7	173.8	171.5	170.1	168.6
50°	170.8	167.1	164.2	161.2	159.7	157.5	154.6	153.0	151.6	150.1	150.1
52.5°	149.4	145.7	142.7	140.5	139.1	137.5	135.3	134.6	133.1	133.1	132.3
55°	129.5	127.2	124.2	121.3	120.6	119.8	118.3	116.8	116.1	115.4	116.1
57.5°	112.4	110.2	107.2	105.1	104.2	103.5	102.8	101.3	100.6	100.6	100.6
60°	96.9	94.6	92.4	90.1	90.1	88.7	88.0	87.3	86.5	85.8	85.8
62.5°	82.8	80.7	78.4	76.9	76.2	75.4	73.9	73.2	72.5	72.5	71.8
65°	70.2	67.3	66.6	64.3	63.6	62.9	62.1	60.6	59.9	59.1	58.4
67.5°	57.7	56.3	54.0	52.5	51.8	51.0	50.2	48.8	48.1	47.4	45.8
70°	46.6	45.1	43.6	42.2	41.3	40.6	39.2	37.7	37.0	35.5	33.3
72.5°	36.2	34.7	33.3	31.9	31.0	30.3	28.8	27.4	25.8	24.4	23.0
75°	27.4	25.8	23.7	22.2	21.4	21.4	19.2	17.8	16.2	14.1	12.6
77.5°	19.2	16.9	16.2	14.8	14.1	12.6	11.1	9.6	8.2	7.5	5.9
80°	12.6	11.1	9.6	8.9	8.2	7.5	6.6	5.2	3.7	3.0	2.2
82.5°	7.5	6.6	5.9	5.2	4.4	3.7	3.0	3.0	2.2	1.4	0.7
85°	3.7	3.0	2.2	2.2	1.4	1.4	1.4	0.7	0.7	0.7	0.7
87.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	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°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	492.5	491.7	491.0	490.3	490.3	488.7	488.7	488.0	486.6	485.8	485.8
5°	488.0	485.8	484.3	483.6	482.8	480.7	479.8	478.4	477.0	475.4	474.7
7.5°	481.4	477.7	476.2	475.4	473.2	471.1	469.5	467.3	465.1	462.9	462.2
10°	473.2	469.5	465.9	464.3	462.2	460.6	457.7	454.7	452.6	450.3	448.1
12.5°	462.9	458.4	454.7	453.3	451.0	448.1	443.7	442.2	438.5	437.0	434.0
15°	451.0	445.8	442.2	439.9	437.8	433.3	430.3	427.4	423.7	422.3	419.3
17.5°	436.2	430.3	426.6	424.4	423.0	419.3	414.8	411.1	407.5	405.9	403.8
20°	418.5	414.8	409.6	407.5	405.9	401.5	397.0	395.6	392.6	389.7	387.4
22.5°	398.6	394.9	389.7	387.4	386.7	383.1	379.4	377.1	374.9	372.6	370.5
25°	377.8	373.5	369.0	367.5	366.0	363.0	360.1	358.7	356.4	355.0	353.4
27.5°	355.7	351.2	347.5	345.3	343.8	341.6	340.2	338.6	337.2	335.7	335.0
30°	332.0	327.5	324.7	323.1	321.7	320.9	318.7	317.9	317.2	315.8	316.5
32.5°	308.3	304.6	301.7	299.4	299.4	298.0	297.3	297.3	296.5	296.5	296.5
35°	282.5	280.2	278.0	277.3	276.6	275.9	275.0	275.9	275.0	275.9	276.6
37.5°	258.8	256.6	255.1	254.3	253.6	254.3	253.6	253.6	254.3	255.8	256.6
40°	234.4	232.9	231.4	232.2	231.4	231.4	231.4	233.7	234.4	235.1	235.8
42.5°	211.4	210.0	209.3	209.3	210.0	209.3	210.7	211.4	213.0	215.2	216.6
45°	189.3	188.6	188.6	189.3	188.6	190.0	190.0	191.5	193.8	195.2	196.6
47.5°	168.6	168.6	168.6	169.4	169.4	170.1	171.5	172.2	173.8	175.3	176.7
50°	149.4	150.1	150.9	150.9	150.9	152.3	153.9	154.6	155.3	156.0	158.2
52.5°	132.3	133.1	133.1	133.8	134.6	135.3	136.1	137.5	138.2	139.8	140.5
55°	116.1	116.1	117.6	118.3	118.3	118.3	119.8	119.8	121.3	122.0	123.4
57.5°	100.6	101.3	101.3	102.0	102.0	102.8	103.5	104.2	105.1	105.8	106.5
60°	85.8	85.8	85.8	86.5	87.3	88.0	87.3	88.7	88.7	90.1	91.0
62.5°	71.8	72.5	72.5	72.5	72.5	72.5	72.5	73.2	73.9	74.6	75.4
65°	58.4	58.4	58.4	57.7	58.4	57.7	58.4	59.1	59.1	59.9	60.6
67.5°	45.1	45.1	43.6	43.6	44.4	44.4	44.4	44.4	43.6	45.1	45.1
70°	32.6	31.9	31.0	30.3	30.3	29.6	29.6	28.8	28.8	28.8	28.8
72.5°	21.4	20.0	18.5	17.8	16.9	16.9	15.5	14.8	15.5	15.5	15.5
75°	11.1	9.6	8.9	8.2	7.5	7.5	6.6	6.6	6.6	6.6	6.6
77.5°	4.4	3.7	3.0	3.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2
80°	1.4	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.7	0.0	0.0	0.7	0.0	0.7	0.7	0.7	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



TEST NUMBER: P583811

CATALOG NUMBER: HC810D010-HM80520935-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	485.0	485.0	484.3	485.0	483.6	484.3	483.6	483.6
5°	473.9	472.5	472.5	472.5	471.8	471.8	471.1	471.1
7.5°	460.6	459.9	459.2	458.4	457.7	457.0	457.0	457.0
10°	447.4	445.8	445.8	445.1	443.7	442.9	442.9	442.9
12.5°	431.9	431.0	430.3	430.3	427.4	428.2	427.4	427.4
15°	417.1	416.3	416.3	414.1	412.6	412.6	412.6	411.8
17.5°	401.5	400.7	400.0	398.6	397.0	397.0	396.3	397.0
20°	385.2	384.5	383.1	383.1	382.2	381.5	380.1	380.8
22.5°	369.0	367.5	366.7	366.7	366.0	366.0	364.6	364.6
25°	351.9	351.2	350.5	351.2	349.8	349.8	348.2	348.2
27.5°	334.3	333.4	333.4	333.4	332.7	333.4	332.7	332.7
30°	316.5	316.5	315.8	315.8	316.5	315.8	316.5	317.2
32.5°	297.3	297.3	298.0	298.0	298.7	298.7	298.7	298.7
35°	277.3	278.7	278.7	279.5	280.2	281.0	281.0	281.7
37.5°	258.8	259.5	260.2	261.1	262.5	262.5	262.5	262.5
40°	238.8	239.6	241.0	240.3	243.3	244.0	243.3	243.3
42.5°	218.2	219.6	220.3	221.8	222.6	224.1	224.8	224.8
45°	198.9	199.7	201.1	202.7	203.4	205.5	205.5	205.5
47.5°	179.0	180.4	181.1	182.6	183.4	185.6	186.3	185.6
50°	159.7	161.2	162.6	162.6	164.9	165.6	167.1	167.8
52.5°	141.2	142.0	143.4	144.2	145.7	147.1	147.8	148.6
55°	123.4	124.2	125.7	125.7	127.9	128.6	130.2	130.2
57.5°	107.2	107.9	109.4	108.7	110.2	111.7	111.7	110.9
60°	91.7	91.7	91.7	93.2	93.9	94.6	95.4	95.4
62.5°	75.4	76.9	77.6	77.6	78.4	79.1	79.1	78.4
65°	60.6	62.1	62.9	62.9	63.6	63.6	63.6	64.3
67.5°	45.8	45.8	45.8	46.6	45.8	45.8	45.8	45.8
70°	28.8	28.8	28.8	28.8	28.1	28.8	28.8	29.6
72.5°	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
75°	6.6	6.6	6.6	7.5	6.6	6.6	6.6	6.6
77.5°	3.0	2.2	3.0	3.0	2.2	2.2	2.2	2.2
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	0.0	0.7	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)