

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: P583779

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583779
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-HM80520927-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 895.3 lumens
Efficiency: N/A
Efficacy: 90.4 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

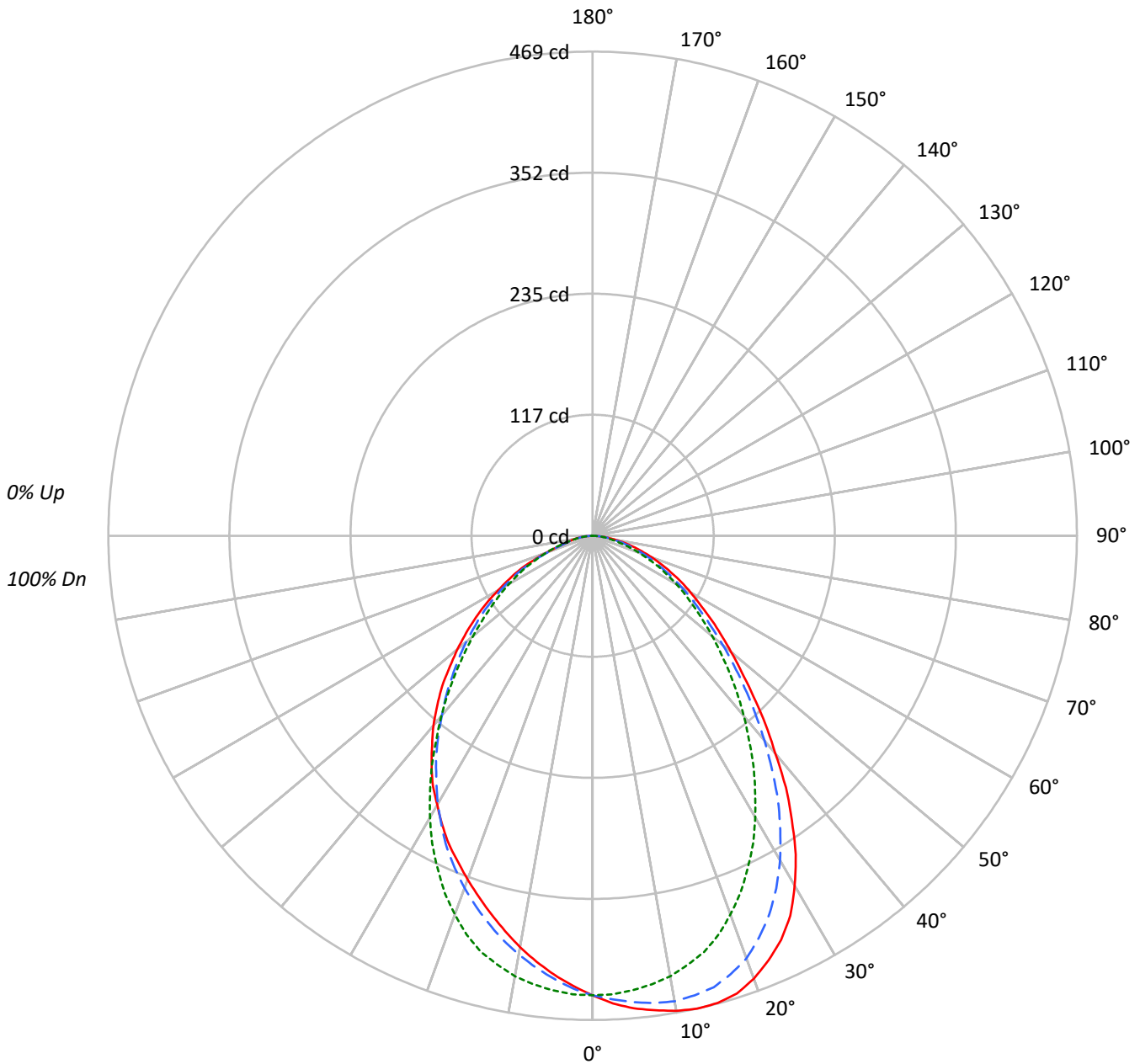
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	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°	13725	13725	13725
5°	14227	13682	13211
10°	14632	13564	12672
15°	14956	13322	12112
20°	14980	12805	11620
25°	14695	12089	11211
30°	13936	11213	10718
35°	12664	10213	10235
40°	11070	9166	9649
45°	9598	8164	8988
50°	8400	7249	8189
55°	7478	6424	7414
60°	6747	5773	6519
65°	6085	5078	5677
70°	5473	4283	4219
75°	4825	3396	3169
80°	4031	2824	3037
85°	3149	2477	2689



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	4.7
10°-20°	118.3	13.2
20°-30°	169.0	18.9
30°-40°	179.6	20.1
40°-50°	154.6	17.3
50°-60°	115.6	12.9
60°-70°	73.8	8.2
70°-80°	33.6	3.7
80°-90°	8.8	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°	329.3	36.8
0°-40°	508.9	56.8
0°-60°	779.2	87.0
0°-90°	895.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	895.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	445	445	445	445	445	
5°	460	453	442	431	427	44
15°	468	453	417	389	379	132
25°	432	405	355	334	330	198
35°	336	313	271	264	272	210
45°	220	208	187	192	206	171
55°	139	128	120	130	138	125
65°	83	74	70	73	78	83
75°	40	35	28	26	27	43
85°	9	8	7	8	8	11
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°	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1
2.5°	453.4	452.1	452.8	452.1	452.8	452.8	451.5	451.5	451.5	451.5	449.5
5°	459.6	459.0	459.0	458.4	457.8	458.4	457.8	457.1	455.9	455.3	453.4
7.5°	463.5	463.5	463.5	463.5	462.9	462.3	461.6	460.4	459.0	457.8	456.5
10°	467.3	467.9	467.3	466.6	466.0	464.8	464.1	462.9	461.0	459.0	457.8
12.5°	469.1	469.1	468.5	468.5	467.3	466.6	464.8	462.9	461.0	459.0	455.9
15°	468.5	468.5	467.9	467.3	465.4	464.8	463.5	461.6	458.4	455.9	452.8
17.5°	464.8	464.1	462.9	462.9	460.4	459.6	458.4	455.9	452.8	448.9	445.1
20°	456.5	456.5	455.9	455.3	452.8	450.9	449.5	446.4	443.9	439.5	435.7
22.5°	445.1	446.4	445.1	443.9	440.8	440.1	438.2	434.4	430.7	425.5	421.2
25°	431.9	431.3	430.7	429.4	426.8	425.5	423.0	419.3	415.4	409.8	404.7
27.5°	414.8	412.3	412.3	409.8	407.8	405.9	404.7	400.9	395.8	391.4	385.1
30°	391.4	392.1	388.8	388.2	385.1	383.8	381.3	377.5	373.1	368.1	363.0
32.5°	366.1	364.2	364.2	361.7	359.2	357.2	356.6	352.2	348.5	343.4	338.2
35°	336.4	336.4	334.5	333.9	331.4	330.1	328.1	325.6	321.2	316.8	313.0
37.5°	307.4	306.0	305.4	304.1	302.3	300.4	300.4	295.9	295.3	290.3	285.2
40°	275.0	276.3	275.0	273.2	272.5	271.3	270.7	268.2	266.2	261.8	258.7
42.5°	247.9	246.7	246.7	245.9	243.4	243.4	242.2	240.9	237.8	236.4	232.7
45°	220.1	221.3	219.4	220.1	217.6	217.6	217.6	215.0	212.5	210.6	208.1
47.5°	196.0	196.6	196.6	194.7	194.1	194.1	192.8	191.6	189.7	187.2	185.2
50°	175.1	175.7	174.5	173.9	172.6	172.0	172.0	169.5	168.2	165.6	164.4
52.5°	156.1	156.1	155.5	155.5	153.6	153.6	152.4	150.5	149.3	148.0	144.8
55°	139.1	139.1	138.5	137.9	137.9	135.9	135.3	133.4	132.1	129.6	127.8
57.5°	122.7	123.3	122.7	122.0	121.4	120.8	119.5	117.6	116.4	114.4	113.2
60°	109.4	109.4	108.8	108.2	106.9	106.3	105.7	104.3	102.4	101.2	99.3
62.5°	96.8	96.2	95.4	94.8	93.6	93.6	92.3	91.1	89.2	87.9	86.7
65°	83.4	83.4	82.8	82.8	82.2	80.9	80.3	79.7	77.2	76.6	73.9
67.5°	71.4	72.1	70.8	70.8	69.6	69.6	68.9	67.1	66.4	65.1	63.8
70°	60.7	60.7	60.7	60.1	58.8	58.2	57.6	56.3	55.7	54.3	53.1
72.5°	50.0	50.0	49.3	49.3	48.7	48.1	47.5	46.2	46.2	45.0	43.6
75°	40.5	40.5	39.8	39.2	38.6	38.6	38.0	37.3	36.1	35.5	34.7
77.5°	31.0	31.0	31.0	30.4	29.7	29.7	29.7	28.5	27.2	27.2	26.6
80°	22.7	22.7	22.1	22.1	21.5	21.5	21.5	20.9	20.2	19.6	19.0
82.5°	15.1	15.1	15.1	15.1	14.5	14.5	14.5	13.9	13.2	13.2	13.2
85°	8.9	8.9	8.9	8.9	8.2	8.2	8.2	8.2	8.2	7.6	7.6
87.5°	3.8	3.1	3.8	3.1	3.8	3.1	3.8	3.1	3.1	3.1	3.1
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°	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1
2.5°	450.3	449.5	448.9	448.3	448.3	447.7	446.4	445.8	445.1	444.5	444.5
5°	452.8	452.1	450.9	449.5	448.9	447.7	446.4	445.1	443.9	442.0	441.4
7.5°	454.6	452.8	451.5	448.9	448.3	447.0	445.1	443.3	440.8	438.2	436.3
10°	454.6	452.1	450.3	447.0	445.8	444.5	442.0	438.9	435.7	433.2	430.0
12.5°	453.4	450.3	447.0	443.9	442.0	440.1	436.3	433.2	429.4	425.5	423.0
15°	448.9	445.1	441.4	437.5	435.7	433.2	429.4	424.9	421.2	417.3	412.9
17.5°	440.8	436.9	432.5	428.0	425.5	423.7	417.9	414.8	409.2	405.3	401.6
20°	430.0	425.5	419.9	415.4	412.3	410.4	405.9	400.3	395.8	390.2	386.3
22.5°	416.1	410.4	404.7	400.3	397.1	394.6	388.8	383.2	379.4	374.3	369.9
25°	399.7	393.9	388.2	381.9	378.8	376.2	371.2	366.1	361.1	355.3	351.6
27.5°	380.1	373.7	368.7	363.0	359.8	356.0	350.3	345.2	340.2	336.4	331.4
30°	358.6	351.6	346.5	340.8	337.6	334.5	328.9	323.7	319.4	314.9	312.4
32.5°	332.6	327.5	322.5	316.8	314.3	312.4	306.6	301.6	296.5	292.8	290.9
35°	308.0	302.3	297.9	292.8	289.6	287.8	282.7	278.3	275.7	271.3	268.8
37.5°	282.0	277.5	272.5	267.4	265.5	263.7	259.9	255.4	251.7	248.5	247.3
40°	254.8	251.0	246.7	243.4	241.6	239.7	236.4	233.3	230.8	227.7	226.3
42.5°	228.9	226.3	222.6	218.8	216.8	216.2	212.5	210.0	208.7	207.3	206.1
45°	205.5	201.7	199.2	196.6	194.7	193.5	191.6	189.7	188.5	187.2	185.9
47.5°	182.7	179.6	177.1	175.1	173.2	172.6	171.4	169.5	168.2	168.2	168.2
50°	161.9	159.4	156.9	155.5	154.9	153.6	152.4	151.8	151.1	151.1	151.1
52.5°	143.5	141.0	139.1	137.9	137.9	136.5	135.3	134.7	134.7	134.7	134.7
55°	126.5	124.5	123.3	122.0	120.8	120.2	120.2	120.2	119.5	119.5	120.2
57.5°	111.3	110.0	108.2	106.9	106.3	106.3	105.7	104.9	105.7	106.3	106.9
60°	97.4	96.2	95.4	93.6	93.6	93.6	92.9	92.9	92.9	93.6	94.2
62.5°	84.7	84.1	82.8	82.2	81.6	81.6	80.9	80.9	80.9	80.9	81.6
65°	73.3	72.1	70.8	70.8	70.8	70.2	70.2	68.9	69.6	69.6	68.9
67.5°	62.6	61.3	60.7	60.1	59.5	59.5	58.8	58.2	57.6	57.6	57.6
70°	52.5	51.2	51.2	50.0	50.0	49.3	48.7	48.7	48.1	47.5	46.8
72.5°	42.3	41.7	41.1	40.5	40.5	40.5	39.8	39.2	38.6	38.0	36.7
75°	33.5	33.5	32.2	31.6	31.6	31.0	30.4	29.7	29.1	28.5	27.8
77.5°	26.0	25.2	24.0	23.4	23.4	23.4	22.7	22.1	21.5	20.9	20.2
80°	19.0	18.4	17.7	17.1	17.1	17.1	16.5	16.5	15.9	15.9	15.9
82.5°	12.6	12.6	12.0	12.0	12.0	12.0	11.4	11.4	11.4	11.4	11.4
85°	7.6	7.6	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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°	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1
2.5°	443.3	443.3	442.0	441.4	440.8	441.4	440.1	439.5	438.9	438.9	438.2
5°	439.5	438.9	436.3	435.7	435.0	434.4	433.2	431.9	430.7	430.0	429.4
7.5°	434.4	432.5	430.0	429.4	428.8	426.8	424.9	423.7	421.8	421.2	419.9
10°	427.4	424.9	423.0	421.2	419.9	417.9	416.1	414.2	411.7	411.0	409.2
12.5°	419.3	416.1	412.3	411.7	409.8	407.2	404.7	402.8	400.9	399.7	397.7
15°	409.2	405.9	402.2	400.3	398.3	396.4	393.3	390.8	388.8	387.0	385.1
17.5°	397.1	393.3	390.2	388.2	387.0	383.8	381.3	378.1	376.2	374.3	372.5
20°	382.6	379.4	375.0	373.1	372.5	369.9	366.7	365.5	363.0	361.1	359.8
22.5°	366.1	363.0	359.2	358.0	355.3	354.1	351.0	349.7	348.5	346.5	345.9
25°	347.7	344.6	341.5	340.8	339.0	337.6	335.7	333.9	333.9	332.0	332.0
27.5°	328.9	325.6	323.1	321.9	321.2	320.0	318.0	317.4	316.8	316.1	316.1
30°	308.6	304.8	303.5	302.9	302.3	301.0	300.4	299.1	299.8	300.4	299.8
32.5°	287.0	285.8	283.3	282.0	282.7	282.0	280.8	282.0	281.4	282.7	283.3
35°	266.2	264.9	263.7	263.7	262.4	262.4	262.4	263.0	264.3	264.9	266.2
37.5°	245.9	244.1	243.4	242.8	243.4	243.4	243.4	244.7	245.9	247.3	249.2
40°	224.5	223.2	223.2	223.2	223.2	225.1	224.5	225.7	227.1	228.9	230.8
42.5°	204.2	204.2	204.8	204.8	204.8	204.8	206.1	208.1	210.0	211.8	213.7
45°	185.2	185.2	185.2	186.6	186.6	187.2	189.7	191.0	192.2	194.1	196.0
47.5°	167.6	167.6	168.2	168.9	169.5	170.7	172.0	173.9	175.7	177.1	179.0
50°	151.1	151.8	153.0	154.3	154.3	154.9	156.9	158.1	159.4	161.2	161.9
52.5°	135.3	136.5	137.9	138.5	139.1	140.4	141.0	142.9	143.5	145.4	146.0
55°	120.8	121.4	123.3	123.9	123.9	125.2	126.5	127.8	129.6	129.6	130.9
57.5°	107.5	108.2	109.4	110.0	109.4	111.3	111.9	113.2	113.8	115.0	115.8
60°	94.2	95.4	96.2	96.2	96.8	97.4	98.7	98.7	99.9	101.2	101.2
62.5°	81.6	82.2	82.8	83.4	84.1	83.4	85.3	85.3	86.7	87.3	88.5
65°	69.6	70.2	70.2	70.8	70.8	71.4	71.4	72.1	72.7	73.9	74.6
67.5°	57.6	57.6	57.6	58.2	57.6	58.2	58.2	58.8	58.8	60.1	60.7
70°	46.8	46.2	45.6	45.6	45.6	45.6	45.0	45.6	45.6	46.2	46.2
72.5°	36.1	35.5	34.7	34.1	34.1	33.5	32.9	33.5	33.5	34.1	34.1
75°	27.2	26.0	26.0	26.0	25.2	25.2	25.2	26.0	26.0	26.0	26.6
77.5°	20.2	20.2	19.6	19.6	19.6	20.2	20.2	20.9	20.9	20.9	20.9
80°	15.1	15.9	15.9	15.9	15.9	16.5	16.5	16.5	16.5	17.1	17.1
82.5°	11.4	11.4	11.4	11.4	12.0	12.0	12.0	12.0	12.0	12.0	12.0
85°	7.0	7.6	7.6	7.0	7.6	7.6	7.6	7.6	7.6	7.6	7.6
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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: P583779

CATALOG NUMBER: HC810D010-HM80520927-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	445.1	445.1	445.1	445.1	445.1	445.1	445.1	445.1
2.5°	437.5	437.5	437.5	437.5	436.9	436.9	436.9	436.3
5°	428.0	428.0	428.0	426.8	427.4	427.4	426.2	426.8
7.5°	418.7	417.9	417.3	417.3	416.7	416.1	415.4	416.1
10°	407.8	405.9	405.9	405.3	405.3	404.1	404.1	404.7
12.5°	395.8	394.6	394.6	393.9	393.3	392.7	392.1	392.1
15°	383.8	382.6	381.9	381.3	380.7	379.4	380.1	379.4
17.5°	371.8	369.9	369.9	369.3	368.7	367.3	367.3	366.7
20°	358.0	357.2	356.0	356.6	356.0	354.7	354.1	354.1
22.5°	344.0	344.0	343.4	343.4	342.7	342.1	341.5	341.5
25°	330.7	330.1	330.7	330.7	328.9	328.9	328.9	329.5
27.5°	315.5	316.1	315.5	315.5	315.5	315.5	316.1	315.5
30°	300.4	300.4	300.4	301.0	302.3	301.6	301.6	301.0
32.5°	283.9	284.5	284.5	285.2	285.8	287.0	287.0	287.8
35°	267.4	268.8	269.4	268.8	270.7	270.7	271.9	271.9
37.5°	250.4	251.0	252.3	252.9	254.2	254.8	255.4	255.4
40°	232.1	234.6	235.2	235.8	237.8	237.8	238.4	239.7
42.5°	215.0	217.6	218.2	218.8	220.1	221.9	221.3	222.6
45°	198.6	200.5	201.1	201.7	203.6	204.2	204.2	206.1
47.5°	180.9	182.1	182.7	184.0	185.2	186.6	187.8	187.2
50°	163.1	165.0	166.4	167.0	168.9	169.5	170.1	170.7
52.5°	147.4	148.6	149.3	149.9	151.8	152.4	153.0	154.3
55°	132.1	132.8	134.0	133.4	135.3	135.9	136.5	137.9
57.5°	117.0	117.6	118.3	118.3	119.5	120.8	121.4	122.0
60°	102.4	103.7	104.3	104.3	104.3	105.7	105.7	105.7
62.5°	89.2	89.2	89.8	89.8	91.1	91.1	91.1	91.1
65°	75.2	75.8	76.6	76.6	77.8	77.2	78.4	77.8
67.5°	60.7	60.7	62.0	62.0	61.3	62.0	62.0	62.0
70°	46.2	46.2	46.8	46.8	46.8	46.8	46.8	46.8
72.5°	34.1	34.1	34.1	34.7	34.1	34.1	34.7	34.1
75°	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6
77.5°	20.9	20.9	21.5	21.5	21.5	21.5	21.5	21.5
80°	17.1	17.1	17.1	17.1	17.7	17.1	17.1	17.1
82.5°	12.6	12.0	12.6	12.0	12.6	12.6	12.6	12.6
85°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
87.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)