

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: P583777

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P583777
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-HM80520927-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 787.8 lumens
Efficiency: N/A
Efficacy: 79.6 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

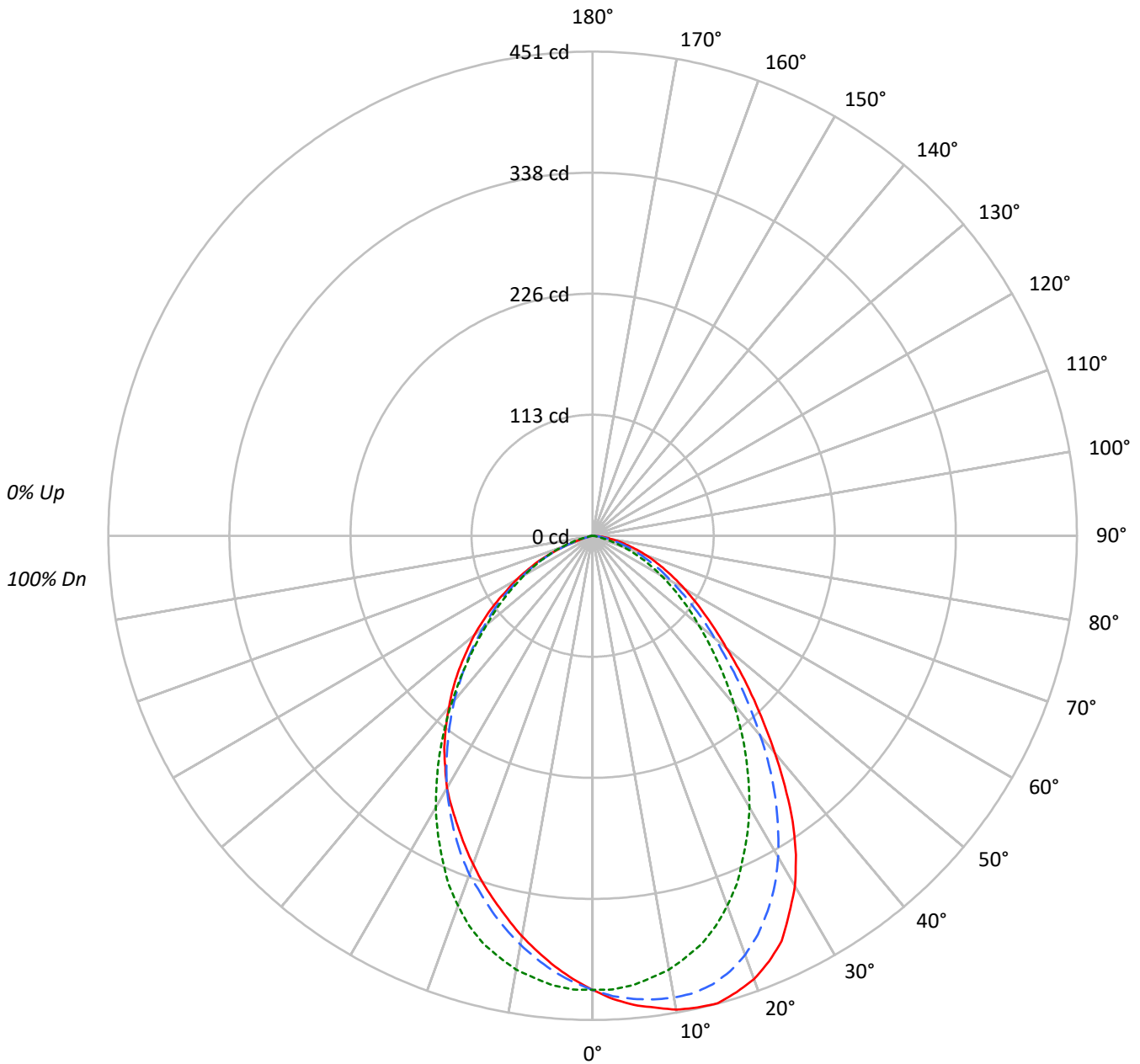
Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	38	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°	13044	13044	13044
5°	13580	13016	12465
10°	14034	12850	11861
15°	14391	12556	11244
20°	14422	12033	10685
25°	14174	11272	10129
30°	13417	10401	9657
35°	12234	9355	9068
40°	10639	8244	8369
45°	9127	7139	7662
50°	7796	6160	6884
55°	6833	5306	5984
60°	6087	4521	5032
65°	5392	3692	4020
70°	4787	2732	2272
75°	3991	1430	667
80°	3143	444	107
85°	2264	212	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.9	5.1
10°-20°	111.7	14.2
20°-30°	158.1	20.1
30°-40°	165.4	21.0
40°-50°	138.0	17.5
50°-60°	97.8	12.4
60°-70°	56.3	7.2
70°-80°	18.1	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°	309.7	39.3
0°-40°	475.1	60.3
0°-60°	710.9	90.2
0°-90°	787.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	787.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	423	423	423	423	423	
5°	439	433	420	408	403	42
15°	451	432	393	362	352	127
25°	417	386	331	305	298	190
35°	325	296	248	235	241	201
45°	209	192	164	166	176	162
55°	127	114	99	104	111	115
65°	74	62	51	51	55	74
75°	34	25	12	6	6	36
85°	6	3	1	0	0	8
90°	0	0	0	0	0	



TEST NUMBER: P583777

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0
2.5°	431.8	431.2	430.6	431.2	430.6	431.2	430.6	430.6	430.0	429.2	429.2
5°	438.7	438.1	438.1	438.1	437.5	436.8	436.8	436.2	435.0	434.3	433.1
7.5°	443.2	443.8	443.8	443.8	442.6	442.6	441.3	440.1	438.7	437.5	435.6
10°	448.2	448.2	447.6	447.0	445.7	445.1	444.5	443.2	441.3	438.7	436.8
12.5°	450.1	450.1	449.5	448.2	447.6	447.0	446.3	444.5	442.0	438.7	436.2
15°	450.8	449.5	448.8	448.2	447.0	445.1	445.1	442.6	439.5	435.6	432.5
17.5°	445.7	446.3	445.1	443.8	442.0	440.7	438.7	436.8	433.1	428.6	425.5
20°	439.5	438.7	438.1	436.2	433.7	433.1	431.2	428.0	424.9	419.7	415.4
22.5°	429.2	428.6	427.4	426.1	423.6	422.4	420.5	416.6	412.2	407.1	402.1
25°	416.6	415.4	413.5	411.0	409.0	407.8	405.3	401.5	396.4	390.8	385.6
27.5°	396.4	398.3	397.0	393.3	391.4	388.8	388.1	383.1	378.8	373.0	367.3
30°	376.8	376.8	374.9	373.0	369.9	367.9	365.4	361.7	357.2	350.3	345.8
32.5°	352.2	351.5	348.9	348.3	345.8	342.1	341.4	336.3	331.9	326.8	321.2
35°	325.0	323.7	321.2	319.3	318.0	316.1	314.2	309.8	305.3	300.3	296.5
37.5°	294.0	294.0	293.4	290.2	289.0	287.6	285.7	281.4	278.9	273.7	270.0
40°	264.3	263.6	261.8	261.1	259.9	257.9	256.6	254.1	250.4	246.5	242.8
42.5°	235.2	235.8	233.3	233.9	231.4	230.2	229.5	225.7	223.8	220.0	216.8
45°	209.3	208.7	207.3	206.7	205.4	204.2	202.9	201.1	197.8	194.1	192.2
47.5°	185.2	183.3	183.3	182.7	182.1	179.6	179.0	177.1	175.1	171.3	168.8
50°	162.5	162.5	162.5	161.8	160.0	159.3	158.1	156.1	154.2	151.7	148.0
52.5°	144.1	144.1	144.1	143.5	141.0	140.4	139.7	137.1	134.6	132.8	130.3
55°	127.1	127.7	127.1	125.8	123.9	123.9	122.0	120.8	118.3	116.4	113.8
57.5°	112.5	112.5	111.3	110.6	109.4	108.8	107.5	106.3	103.0	101.2	98.0
60°	98.7	98.0	98.0	96.8	95.4	94.2	93.5	91.7	90.4	87.3	84.7
62.5°	85.9	85.9	84.7	84.7	82.2	82.2	81.6	79.7	77.8	74.6	73.3
65°	73.9	73.9	73.3	72.7	70.8	70.2	69.6	67.7	65.7	63.8	61.9
67.5°	63.2	63.2	61.9	61.3	60.1	59.4	58.2	56.9	55.1	53.1	51.2
70°	53.1	52.5	51.8	51.2	50.0	49.3	48.1	46.8	44.8	43.6	41.7
72.5°	43.0	43.0	42.3	41.1	40.5	39.8	39.2	38.0	36.1	34.1	32.9
75°	33.5	33.5	33.5	32.2	31.0	30.3	30.3	29.1	27.8	26.0	24.6
77.5°	26.0	25.2	24.6	24.6	23.4	22.7	22.1	21.5	19.6	19.0	17.7
80°	17.7	18.4	17.7	17.1	16.5	15.7	15.7	14.5	13.9	12.6	11.4
82.5°	12.0	11.4	11.4	10.7	10.7	10.1	10.1	8.9	8.2	7.6	7.0
85°	6.4	6.4	5.6	5.6	5.6	5.0	5.0	4.4	4.4	3.8	3.1
87.5°	1.9	1.9	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°	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0
2.5°	428.6	427.4	426.7	426.7	426.1	425.5	424.9	424.2	423.0	423.0	421.7
5°	431.8	430.6	430.0	428.0	426.7	426.7	424.2	423.6	421.7	420.5	419.1
7.5°	434.3	431.8	430.0	428.0	426.7	425.5	423.0	420.5	417.9	415.4	414.1
10°	434.3	431.8	428.6	425.5	424.2	423.0	419.7	416.0	412.9	410.4	407.1
12.5°	433.1	429.2	425.5	423.0	420.5	418.5	414.7	411.0	407.1	402.1	399.5
15°	429.2	424.2	420.5	416.0	414.1	411.0	407.8	402.1	397.6	393.3	390.0
17.5°	421.7	415.4	411.0	406.5	403.4	401.5	396.4	391.4	386.3	381.3	377.4
20°	410.4	404.6	399.5	393.9	391.4	388.8	382.5	377.4	372.4	366.7	362.9
22.5°	396.4	390.8	383.8	379.4	375.5	372.4	366.7	361.0	355.9	350.9	345.8
25°	379.4	373.7	367.3	360.4	357.8	354.7	348.3	342.7	336.9	331.3	326.8
27.5°	361.0	353.4	348.3	340.8	338.2	335.1	328.1	321.8	316.7	312.3	307.2
30°	338.8	333.2	326.2	319.3	316.7	313.6	308.0	302.2	297.1	292.1	287.0
32.5°	314.8	309.2	302.2	297.1	293.4	290.8	285.1	280.1	275.0	270.0	265.5
35°	289.6	283.2	278.1	273.1	270.0	266.8	261.1	256.6	252.9	248.5	244.0
37.5°	263.6	259.3	254.1	248.5	245.3	242.8	238.4	233.3	230.2	226.3	223.2
40°	238.4	233.3	228.9	223.8	221.3	219.4	214.9	211.2	207.9	204.8	202.9
42.5°	212.4	207.9	203.6	200.4	198.6	196.6	193.4	189.1	187.2	184.0	182.1
45°	188.4	184.6	181.5	177.1	175.7	174.5	170.7	167.6	165.6	163.7	162.5
47.5°	165.6	163.1	159.3	156.7	154.9	153.6	151.1	148.6	146.6	145.4	144.1
50°	146.0	142.9	140.4	137.9	136.5	134.6	132.1	130.9	129.6	128.4	128.4
52.5°	127.7	124.5	122.0	120.1	118.9	117.6	115.8	115.0	113.8	113.8	113.1
55°	110.6	108.8	106.3	103.7	103.0	102.4	101.2	99.9	99.3	98.7	99.3
57.5°	96.0	94.2	91.7	89.8	89.2	88.5	87.9	86.7	85.9	85.9	85.9
60°	82.8	80.9	79.0	77.2	77.2	75.8	75.2	74.6	73.9	73.3	73.3
62.5°	70.8	68.9	67.1	65.7	65.1	64.4	63.2	62.6	61.9	61.9	61.3
65°	60.1	57.6	56.9	55.1	54.3	53.7	53.1	51.8	51.2	50.6	50.0
67.5°	49.3	48.1	46.2	44.8	44.2	43.6	43.0	41.7	41.1	40.5	39.2
70°	39.8	38.6	37.3	36.1	35.5	34.7	33.5	32.2	31.6	30.3	28.5
72.5°	31.0	29.7	28.5	27.2	26.6	26.0	24.6	23.4	22.1	20.9	19.6
75°	23.4	22.1	20.2	19.0	18.4	18.4	16.5	15.1	13.9	12.0	10.7
77.5°	16.5	14.5	13.9	12.6	12.0	10.7	9.5	8.2	7.0	6.4	5.0
80°	10.7	9.5	8.2	7.6	7.0	6.4	5.6	4.4	3.1	2.5	1.9
82.5°	6.4	5.6	5.0	4.4	3.8	3.1	2.5	2.5	1.9	1.3	0.6
85°	3.1	2.5	1.9	1.9	1.3	1.3	1.3	0.6	0.6	0.6	0.6
87.5°	1.3	0.6	0.6	0.6	0.6	0.6	0.6	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°	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0
2.5°	421.1	420.5	419.7	419.1	419.1	417.9	417.9	417.2	416.0	415.4	415.4
5°	417.2	415.4	414.1	413.5	412.9	411.0	410.4	409.0	407.8	406.5	405.9
7.5°	411.6	408.4	407.1	406.5	404.6	402.7	401.5	399.5	397.6	395.8	395.1
10°	404.6	401.5	398.3	397.0	395.1	393.9	391.4	388.8	386.9	385.0	383.1
12.5°	395.8	392.0	388.8	387.5	385.6	383.1	379.4	378.0	374.9	373.7	371.1
15°	385.6	381.3	378.0	376.2	374.3	370.5	367.9	365.4	362.3	361.0	358.4
17.5°	373.0	367.9	364.8	362.9	361.7	358.4	354.7	351.5	348.3	347.1	345.2
20°	357.8	354.7	350.3	348.3	347.1	343.3	339.4	338.2	335.7	333.2	331.3
22.5°	340.8	337.6	333.2	331.3	330.7	327.5	324.3	322.4	320.6	318.7	316.7
25°	323.1	319.3	315.5	314.2	313.0	310.5	308.0	306.6	304.7	303.5	302.2
27.5°	304.1	300.3	297.1	295.2	294.0	292.1	290.8	289.6	288.2	287.0	286.4
30°	283.9	280.1	277.5	276.3	275.0	274.4	272.5	271.9	271.2	270.0	270.6
32.5°	263.6	260.5	257.9	256.0	256.0	254.8	254.1	254.1	253.5	253.5	253.5
35°	241.5	239.6	237.8	237.0	236.4	235.8	235.2	235.8	235.2	235.8	236.4
37.5°	221.3	219.4	218.2	217.4	216.8	217.4	216.8	216.8	217.4	218.8	219.4
40°	200.4	199.2	197.8	198.6	197.8	197.8	197.8	199.8	200.4	201.1	201.7
42.5°	180.8	179.6	179.0	179.0	179.6	179.0	180.2	180.8	182.1	184.0	185.2
45°	161.8	161.2	161.2	161.8	161.2	162.5	162.5	163.7	165.6	167.0	168.2
47.5°	144.1	144.1	144.1	144.7	144.7	145.4	146.6	147.4	148.6	149.9	151.1
50°	127.7	128.4	129.0	129.0	129.0	130.3	131.5	132.1	132.8	133.4	135.3
52.5°	113.1	113.8	113.8	114.4	115.0	115.8	116.4	117.6	118.3	119.5	120.1
55°	99.3	99.3	100.5	101.2	101.2	101.2	102.4	102.4	103.7	104.3	105.5
57.5°	85.9	86.7	86.7	87.3	87.3	87.9	88.5	89.2	89.8	90.4	91.0
60°	73.3	73.3	73.3	73.9	74.6	75.2	74.6	75.8	75.8	77.2	77.8
62.5°	61.3	61.9	61.9	61.9	61.9	61.9	61.9	62.6	63.2	63.8	64.4
65°	50.0	50.0	50.0	49.3	50.0	49.3	50.0	50.6	50.6	51.2	51.8
67.5°	38.6	38.6	37.3	37.3	38.0	38.0	38.0	38.0	37.3	38.6	38.6
70°	27.8	27.2	26.6	26.0	26.0	25.2	25.2	24.6	24.6	24.6	24.6
72.5°	18.4	17.1	15.7	15.1	14.5	14.5	13.2	12.6	13.2	13.2	13.2
75°	9.5	8.2	7.6	7.0	6.4	6.4	5.6	5.6	5.6	5.6	5.6
77.5°	3.8	3.1	2.5	2.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.3	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
85°	0.6	0.0	0.0	0.6	0.0	0.6	0.6	0.6	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-HM80520927-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	423.0	423.0	423.0	423.0	423.0	423.0	423.0	423.0
2.5°	414.7	414.7	414.1	414.7	413.5	414.1	413.5	413.5
5°	405.3	404.0	404.0	404.0	403.4	403.4	402.7	402.7
7.5°	393.9	393.3	392.6	392.0	391.4	390.8	390.8	390.8
10°	382.5	381.3	381.3	380.6	379.4	378.8	378.8	378.8
12.5°	369.3	368.5	367.9	367.9	365.4	366.0	365.4	365.4
15°	356.6	355.9	355.9	354.0	352.8	352.8	352.8	352.2
17.5°	343.3	342.7	342.1	340.8	339.4	339.4	338.8	339.4
20°	329.3	328.7	327.5	327.5	326.8	326.2	325.0	325.6
22.5°	315.5	314.2	313.6	313.6	313.0	313.0	311.7	311.7
25°	301.0	300.3	299.7	300.3	299.1	299.1	297.7	297.7
27.5°	285.7	285.1	285.1	285.1	284.5	285.1	284.5	284.5
30°	270.6	270.6	270.0	270.0	270.6	270.0	270.6	271.2
32.5°	254.1	254.1	254.8	254.8	255.4	255.4	255.4	255.4
35°	237.0	238.4	238.4	239.0	239.6	240.3	240.3	240.9
37.5°	221.3	221.9	222.5	223.2	224.4	224.4	224.4	224.4
40°	204.2	204.8	206.1	205.4	207.9	208.7	207.9	207.9
42.5°	186.6	187.8	188.4	189.7	190.3	191.6	192.2	192.2
45°	170.1	170.7	172.0	173.2	173.8	175.7	175.7	175.7
47.5°	153.0	154.2	154.9	156.1	156.7	158.7	159.3	158.7
50°	136.5	137.9	139.1	139.1	141.0	141.6	142.9	143.5
52.5°	120.8	121.4	122.6	123.3	124.5	125.8	126.5	127.1
55°	105.5	106.3	107.5	107.5	109.4	110.0	111.3	111.3
57.5°	91.7	92.3	93.5	92.9	94.2	95.4	95.4	94.8
60°	78.4	78.4	78.4	79.7	80.3	80.9	81.6	81.6
62.5°	64.4	65.7	66.4	66.4	67.1	67.7	67.7	67.1
65°	51.8	53.1	53.7	53.7	54.3	54.3	54.3	55.1
67.5°	39.2	39.2	39.2	39.8	39.2	39.2	39.2	39.2
70°	24.6	24.6	24.6	24.6	24.0	24.6	24.6	25.2
72.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
75°	5.6	5.6	5.6	6.4	5.6	5.6	5.6	5.6
77.5°	2.5	1.9	2.5	2.5	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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
85°	0.0	0.6	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)