

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: P583915

Luminaire Tested: **HC815D010-HM80520927-81WWWB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583915  
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: HC815D010-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: 1229.0 lumens  
Efficiency: N/A  
Efficacy: 87.8 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

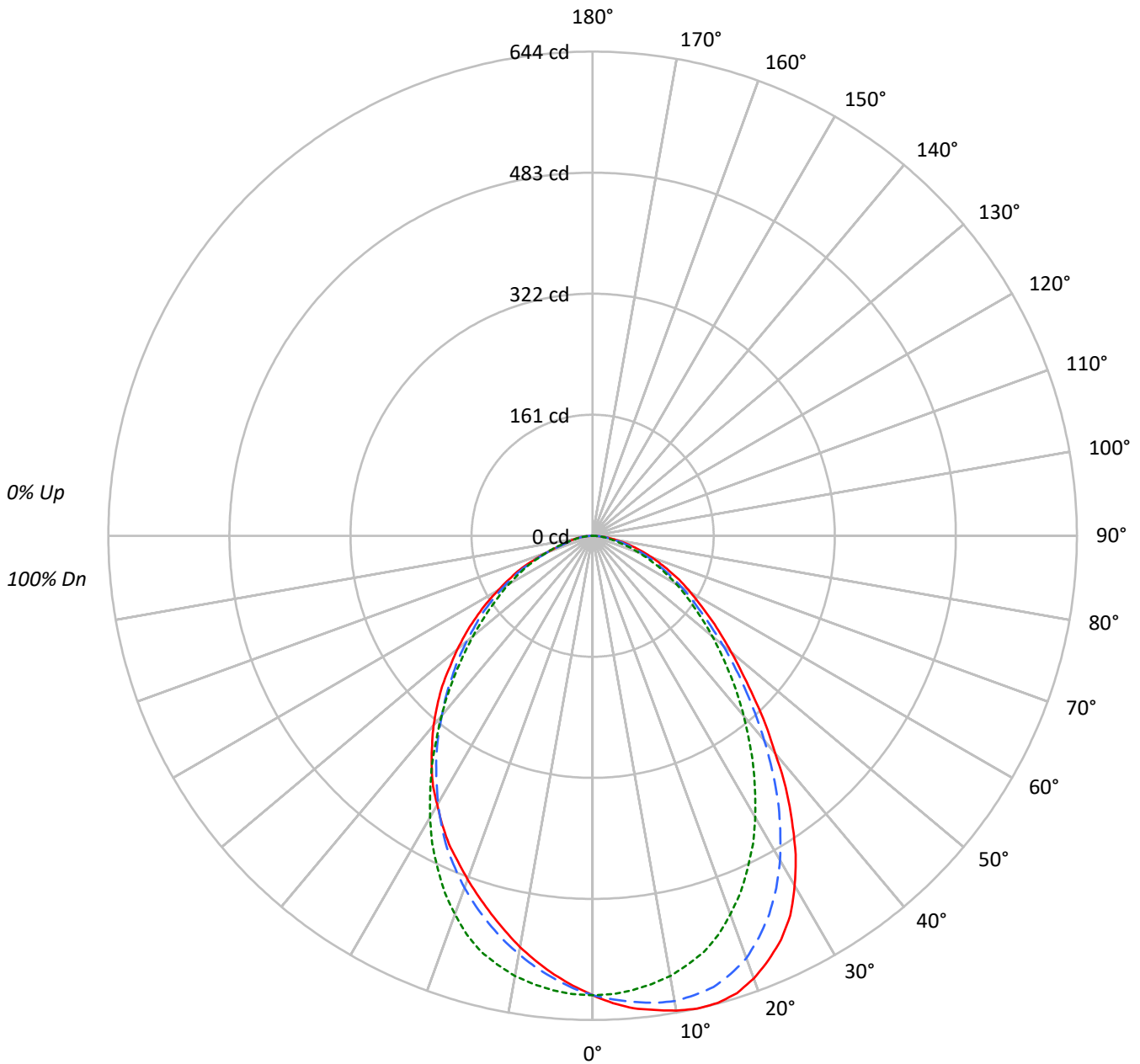
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P583915

CATALOG NUMBER: HC815D010-HM80520927-81WWWB

### 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°	18844	18844	18844
5°	19535	18780	18136
10°	20084	18615	17394
15°	20534	18289	16626
20°	20565	17573	15952
25°	20173	16597	15386
30°	19131	15389	14713
35°	17384	14015	14049
40°	15196	12579	13244
45°	13174	11203	12337
50°	11533	9954	11245
55°	10268	8817	10172
60°	9257	7925	8943
65°	8362	6961	7793
70°	7519	5869	5788
75°	6624	4647	4349
80°	5540	3853	4155
85°	4316	3361	3680



TEST NUMBER: P583915

CATALOG NUMBER: HC815D010-HM80520927-81WWWB

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.6	4.7
10°-20°	162.4	13.2
20°-30°	232.1	18.9
30°-40°	246.6	20.1
40°-50°	212.3	17.3
50°-60°	158.7	12.9
60°-70°	101.2	8.2
70°-80°	46.1	3.7
80°-90°	12.1	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°	452.1	36.8
0°-40°	698.6	56.8
0°-60°	1069.6	87.0
0°-90°	1229.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1229.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	611	611	611	611	611	
5°	631	622	607	591	586	60
15°	643	622	573	534	521	181
25°	593	556	488	458	452	271
35°	462	430	372	363	373	288
45°	302	286	257	264	283	235
55°	191	175	164	178	189	172
65°	115	102	95	100	107	114
75°	56	48	39	36	36	59
85°	12	10	10	10	10	15
90°	0	0	0	0	0	



TEST NUMBER: P583915

CATALOG NUMBER: HC815D010-HM80520927-81WWWB

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1
2.5°	622.4	620.6	621.5	620.6	621.5	621.5	619.7	619.7	619.7	619.7	617.2
5°	631.1	630.2	630.2	629.3	628.4	629.3	628.4	627.6	625.9	624.9	622.4
7.5°	636.2	636.2	636.2	636.2	635.4	634.6	633.6	631.9	630.2	628.4	626.7
10°	641.4	642.3	641.4	640.6	639.7	637.9	637.1	635.4	632.7	630.2	628.4
12.5°	644.1	644.1	643.2	643.2	641.4	640.6	637.9	635.4	632.7	630.2	625.9
15°	643.2	643.2	642.3	641.4	638.9	637.9	636.2	633.6	629.3	625.9	621.5
17.5°	637.9	637.1	635.4	635.4	631.9	631.1	629.3	625.9	621.5	616.2	611.1
20°	626.7	626.7	625.9	624.9	621.5	618.9	617.2	612.9	609.4	603.2	598.0
22.5°	611.1	612.9	611.1	609.4	605.0	604.2	601.5	596.4	591.1	584.2	578.0
25°	592.9	592.0	591.1	589.4	585.9	584.2	580.7	575.5	570.3	562.5	555.5
27.5°	569.4	566.0	566.0	562.5	559.8	557.3	555.5	550.3	543.3	537.3	528.6
30°	537.3	538.2	533.8	533.0	528.6	526.8	523.5	518.2	512.1	505.1	498.3
32.5°	502.6	500.0	500.0	496.5	493.1	490.4	489.6	483.4	478.3	471.3	464.4
35°	461.8	461.8	459.2	458.3	454.9	453.1	450.5	447.1	440.9	434.9	429.7
37.5°	421.9	420.1	419.2	417.5	414.9	412.4	412.4	406.2	405.4	398.4	391.5
40°	377.5	379.3	377.5	375.0	374.2	372.3	371.5	368.0	365.5	359.3	355.0
42.5°	340.3	338.5	338.5	337.6	334.1	334.1	332.5	330.7	326.3	324.6	319.4
45°	302.1	303.8	301.2	302.1	298.6	298.6	298.6	295.1	291.6	289.1	285.6
47.5°	269.1	269.9	269.9	267.4	266.4	266.4	264.7	263.1	260.4	256.9	254.4
50°	240.4	241.4	239.6	238.7	237.0	236.1	236.1	232.6	230.9	227.4	225.7
52.5°	214.4	214.4	213.5	213.5	210.9	210.9	209.2	206.5	204.8	203.2	198.8
55°	191.0	191.0	190.1	189.2	189.2	186.7	185.8	183.2	181.5	178.0	175.3
57.5°	168.3	169.3	168.3	167.5	166.7	165.8	164.0	161.5	159.7	157.1	155.3
60°	150.1	150.1	149.3	148.5	146.6	145.8	145.0	143.3	140.6	138.9	136.3
62.5°	132.8	131.9	131.1	130.3	128.5	128.5	126.8	125.0	122.4	120.6	118.9
65°	114.6	114.6	113.8	113.8	112.8	111.1	110.3	109.4	105.9	105.1	101.6
67.5°	98.1	98.9	97.2	97.2	95.4	95.4	94.6	92.1	91.1	89.4	87.7
70°	83.4	83.4	83.4	82.4	80.7	79.9	79.0	77.2	76.4	74.6	72.9
72.5°	68.6	68.6	67.7	67.7	66.9	65.9	65.1	63.4	63.4	61.6	59.9
75°	55.6	55.6	54.7	53.9	52.9	52.9	52.1	51.2	49.5	48.6	47.7
77.5°	42.5	42.5	42.5	41.7	40.8	40.8	40.8	39.0	37.4	37.4	36.5
80°	31.2	31.2	30.4	30.4	29.5	29.5	29.5	28.7	27.8	26.9	26.0
82.5°	20.8	20.8	20.8	20.8	20.0	20.0	20.0	19.0	18.2	18.2	18.2
85°	12.2	12.2	12.2	12.2	11.3	11.3	11.3	11.3	11.3	10.4	10.4
87.5°	5.2	4.3	5.2	4.3	5.2	4.3	5.2	4.3	4.3	4.3	4.3
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: P583915

CATALOG NUMBER: HC815D010-HM80520927-81WWWB

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1
2.5°	618.0	617.2	616.2	615.4	615.4	614.6	612.9	611.9	611.1	610.2	610.2
5°	621.5	620.6	618.9	617.2	616.2	614.6	612.9	611.1	609.4	606.7	605.9
7.5°	624.1	621.5	619.7	616.2	615.4	613.7	611.1	608.5	605.0	601.5	598.9
10°	624.1	620.6	618.0	613.7	611.9	610.2	606.7	602.4	598.0	594.5	590.2
12.5°	622.4	618.0	613.7	609.4	606.7	604.2	598.9	594.5	589.4	584.2	580.7
15°	616.2	611.1	605.9	600.7	598.0	594.5	589.4	583.3	578.0	572.9	566.8
17.5°	605.0	599.8	593.7	587.7	584.2	581.5	573.7	569.4	561.7	556.3	551.2
20°	590.2	584.2	576.4	570.3	566.0	563.3	557.3	549.5	543.3	535.5	530.3
22.5°	571.2	563.3	555.5	549.5	545.1	541.6	533.8	526.0	520.8	513.8	507.8
25°	548.6	540.8	533.0	524.3	520.0	516.5	509.5	502.6	495.6	487.8	482.6
27.5°	521.6	513.0	506.1	498.3	493.9	488.6	480.9	473.9	466.9	461.8	454.9
30°	492.1	482.6	475.6	467.9	463.6	459.2	451.4	444.4	438.4	432.2	428.7
32.5°	456.6	449.6	442.7	434.9	431.4	428.7	421.0	414.0	407.0	401.9	399.3
35°	422.7	414.9	408.9	401.9	397.5	395.0	388.0	381.9	378.5	372.3	368.9
37.5°	387.2	381.0	374.2	367.2	364.5	362.0	356.8	350.7	345.5	341.1	339.4
40°	349.8	344.6	338.5	334.1	331.6	329.0	324.6	320.3	316.8	312.5	310.8
42.5°	314.3	310.8	305.6	300.3	297.8	296.9	291.6	288.2	286.4	284.7	282.9
45°	282.1	276.9	273.4	269.9	267.4	265.6	263.1	260.4	258.7	256.9	255.2
47.5°	250.9	246.5	243.0	240.4	237.9	237.0	235.2	232.6	230.9	230.9	230.9
50°	222.2	218.7	215.2	213.5	212.7	210.9	209.2	208.3	207.5	207.5	207.5
52.5°	197.0	193.5	191.0	189.2	189.2	187.5	185.8	184.8	184.8	184.8	184.8
55°	173.6	171.0	169.3	167.5	165.8	165.0	165.0	165.0	164.0	164.0	165.0
57.5°	152.8	151.0	148.5	146.6	145.8	145.8	145.0	144.1	145.0	145.8	146.6
60°	133.6	131.9	131.1	128.5	128.5	128.5	127.6	127.6	127.6	128.5	129.3
62.5°	116.3	115.4	113.8	112.8	111.9	111.9	111.1	111.1	111.1	111.1	111.9
65°	100.7	98.9	97.2	97.2	97.2	96.4	96.4	94.6	95.4	95.4	94.6
67.5°	85.9	84.2	83.4	82.4	81.6	81.6	80.7	79.9	79.0	79.0	79.0
70°	72.1	70.3	70.3	68.6	68.6	67.7	66.9	66.9	65.9	65.1	64.2
72.5°	58.2	57.2	56.4	55.6	55.6	55.6	54.7	53.9	52.9	52.1	50.4
75°	46.0	46.0	44.2	43.4	43.4	42.5	41.7	40.8	39.9	39.0	38.2
77.5°	35.5	34.7	33.0	32.2	32.2	32.2	31.2	30.4	29.5	28.7	27.8
80°	26.0	25.2	24.3	23.4	23.4	23.4	22.5	22.5	21.7	21.7	21.7
82.5°	17.4	17.4	16.5	16.5	16.5	16.5	15.7	15.7	15.7	15.7	15.7
85°	10.4	10.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1
2.5°	608.5	608.5	606.7	605.9	605.0	605.9	604.2	603.2	602.4	602.4	601.5
5°	603.2	602.4	598.9	598.0	597.2	596.4	594.5	592.9	591.1	590.2	589.4
7.5°	596.4	593.7	590.2	589.4	588.5	585.9	583.3	581.5	579.0	578.0	576.4
10°	586.7	583.3	580.7	578.0	576.4	573.7	571.2	568.5	565.0	564.2	561.7
12.5°	575.5	571.2	566.0	565.0	562.5	559.0	555.5	553.0	550.3	548.6	546.0
15°	561.7	557.3	552.0	549.5	546.8	544.3	539.8	536.5	533.8	531.2	528.6
17.5°	545.1	539.8	535.5	533.0	531.2	526.8	523.5	519.1	516.5	513.8	511.3
20°	525.1	520.8	514.8	512.1	511.3	507.8	503.4	501.8	498.3	495.6	493.9
22.5°	502.6	498.3	493.1	491.3	487.8	486.1	481.8	480.0	478.3	475.6	474.8
25°	477.4	473.1	468.7	467.9	465.3	463.6	460.9	458.3	458.3	455.7	455.7
27.5°	451.4	447.1	443.6	441.9	440.9	439.2	436.6	435.7	434.9	434.0	434.0
30°	423.6	418.4	416.7	415.7	414.9	413.2	412.4	410.5	411.4	412.4	411.4
32.5°	394.0	392.3	388.9	387.2	388.0	387.2	385.4	387.2	386.2	388.0	388.9
35°	365.5	363.7	362.0	362.0	360.2	360.2	360.2	361.1	362.8	363.7	365.5
37.5°	337.6	335.0	334.1	333.3	334.1	334.1	334.1	336.0	337.6	339.4	342.0
40°	308.1	306.4	306.4	306.4	306.4	309.0	308.1	309.9	311.6	314.3	316.8
42.5°	280.4	280.4	281.2	281.2	281.2	281.2	282.9	285.6	288.2	290.8	293.4
45°	254.4	254.4	254.4	256.1	256.1	256.9	260.4	262.1	263.9	266.4	269.1
47.5°	230.0	230.0	230.9	231.7	232.6	234.4	236.1	238.7	241.4	243.0	245.7
50°	207.5	208.3	210.0	211.8	211.8	212.7	215.2	217.0	218.7	221.4	222.2
52.5°	185.8	187.5	189.2	190.1	191.0	192.7	193.5	196.2	197.0	199.7	200.5
55°	165.8	166.7	169.3	170.1	170.1	171.8	173.6	175.3	178.0	178.0	179.7
57.5°	147.6	148.5	150.1	151.0	150.1	152.8	153.6	155.3	156.3	158.0	158.8
60°	129.3	131.1	131.9	131.9	132.8	133.6	135.4	135.4	137.1	138.9	138.9
62.5°	111.9	112.8	113.8	114.6	115.4	114.6	117.1	117.1	118.9	119.8	121.5
65°	95.4	96.4	96.4	97.2	97.2	98.1	98.1	98.9	99.8	101.6	102.4
67.5°	79.0	79.0	79.0	79.9	79.0	79.9	79.9	80.7	80.7	82.4	83.4
70°	64.2	63.4	62.5	62.5	62.5	62.5	61.6	62.5	62.5	63.4	63.4
72.5°	49.5	48.6	47.7	46.9	46.9	46.0	45.2	46.0	46.0	46.9	46.9
75°	37.4	35.5	35.5	35.5	34.7	34.7	34.7	35.5	35.5	35.5	36.5
77.5°	27.8	27.8	26.9	26.9	26.9	27.8	27.8	28.7	28.7	28.7	28.7
80°	20.8	21.7	21.7	21.7	21.7	22.5	22.5	22.5	22.5	23.4	23.4
82.5°	15.7	15.7	15.7	15.7	16.5	16.5	16.5	16.5	16.5	16.5	16.5
85°	9.5	10.4	10.4	9.5	10.4	10.4	10.4	10.4	10.4	10.4	10.4
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
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: P583915

CATALOG NUMBER: HC815D010-HM80520927-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	611.1	611.1	611.1	611.1	611.1	611.1	611.1	611.1
2.5°	600.7	600.7	600.7	600.7	599.8	599.8	599.8	598.9
5°	587.7	587.7	587.7	585.9	586.7	586.7	585.0	585.9
7.5°	574.7	573.7	572.9	572.9	572.0	571.2	570.3	571.2
10°	559.8	557.3	557.3	556.3	556.3	554.7	554.7	555.5
12.5°	543.3	541.6	541.6	540.8	539.8	539.0	538.2	538.2
15°	526.8	525.1	524.3	523.5	522.5	520.8	521.6	520.8
17.5°	510.4	507.8	507.8	506.9	506.1	504.3	504.3	503.4
20°	491.3	490.4	488.6	489.6	488.6	486.9	486.1	486.1
22.5°	472.2	472.2	471.3	471.3	470.4	469.6	468.7	468.7
25°	453.9	453.1	453.9	453.9	451.4	451.4	451.4	452.2
27.5°	433.1	434.0	433.1	433.1	433.1	433.1	434.0	433.1
30°	412.4	412.4	412.4	413.2	414.9	414.0	414.0	413.2
32.5°	389.7	390.7	390.7	391.5	392.3	394.0	394.0	395.0
35°	367.2	368.9	369.8	368.9	371.5	371.5	373.2	373.2
37.5°	343.8	344.6	346.3	347.2	349.0	349.8	350.7	350.7
40°	318.6	322.0	322.9	323.8	326.3	326.3	327.3	329.0
42.5°	295.1	298.6	299.4	300.3	302.1	304.6	303.8	305.6
45°	272.6	275.1	276.1	276.9	279.4	280.4	280.4	282.9
47.5°	248.2	250.0	250.9	252.6	254.4	256.1	257.7	256.9
50°	223.9	226.5	228.2	229.2	231.7	232.6	233.5	234.4
52.5°	202.2	204.0	204.8	205.7	208.3	209.2	210.0	211.8
55°	181.5	182.3	184.0	183.2	185.8	186.7	187.5	189.2
57.5°	160.6	161.5	162.3	162.3	164.0	165.8	166.7	167.5
60°	140.6	142.3	143.3	143.3	143.3	145.0	145.0	145.0
62.5°	122.4	122.4	123.3	123.3	125.0	125.0	125.0	125.0
65°	103.3	104.1	105.1	105.1	106.8	105.9	107.6	106.8
67.5°	83.4	83.4	85.1	85.1	84.2	85.1	85.1	85.1
70°	63.4	63.4	64.2	64.2	64.2	64.2	64.2	64.2
72.5°	46.9	46.9	46.9	47.7	46.9	46.9	47.7	46.9
75°	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
77.5°	28.7	28.7	29.5	29.5	29.5	29.5	29.5	29.5
80°	23.4	23.4	23.4	23.4	24.3	23.4	23.4	23.4
82.5°	17.4	16.5	17.4	16.5	17.4	17.4	17.4	17.4
85°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
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)