

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: io LED

Report Number: P136958

Luminaire Tested: **LDSQ6A10D010TE ESQ6A10835 6LSQLWW1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136958  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23675)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ6A10D010TE ESQ6A10835 6LSQLWW1LI  
Description: PORTFOLIO LED SQUARE 6 INCH 50 DEGREE CUTOFF RECESSED SINGLE WALL  
WASH LUMINAIRE  
SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER  
Light Source: (1) HIGH LUMEN LED 3500K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 903.7 lumens  
Efficiency: N/A  
Efficacy: 64.5 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.06 / 1.13  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

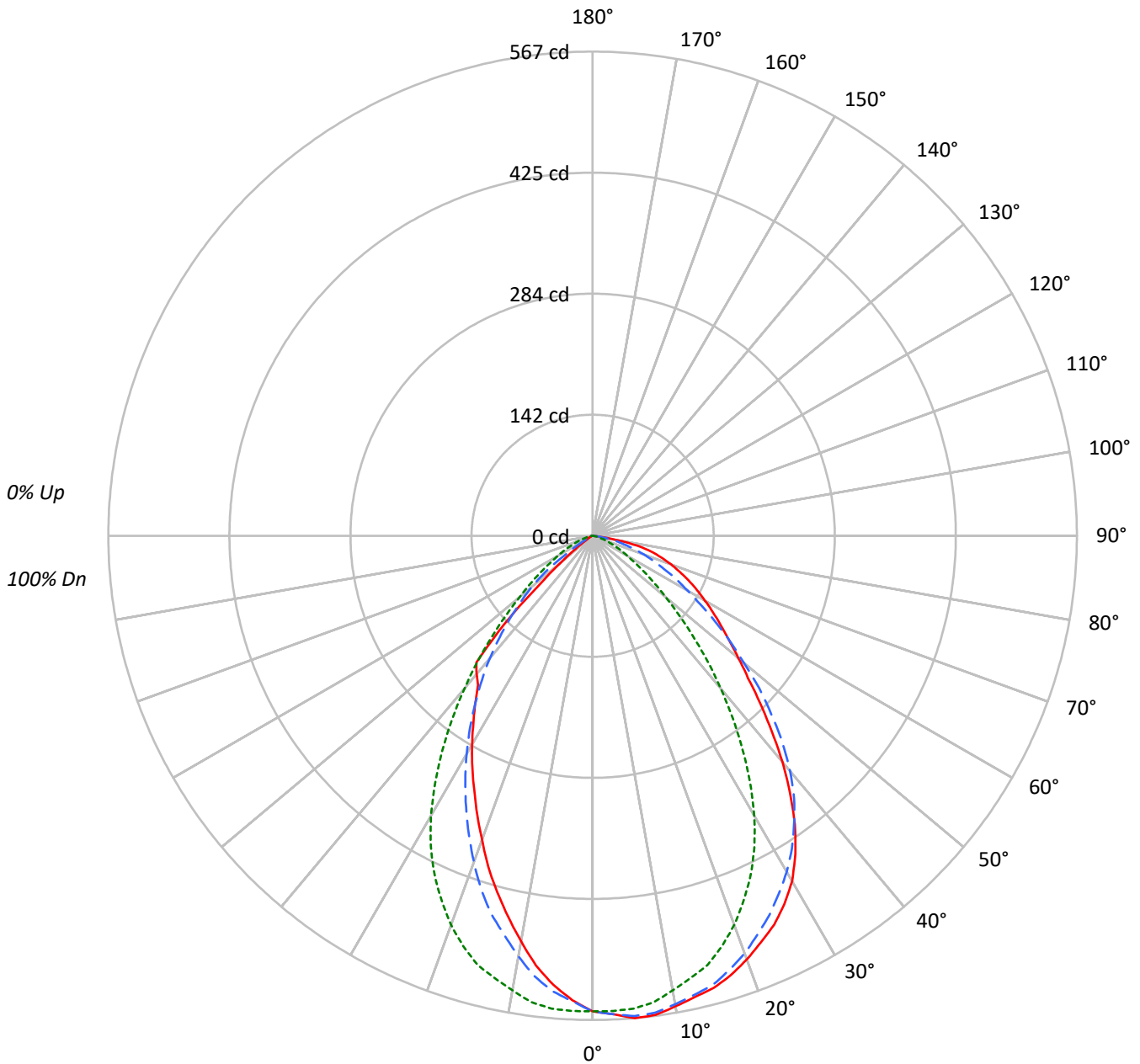
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89																			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79																			
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	70																			
4	89	80	72	67	87	78	71	66	76	70	65	74	69	65	72	67	64	62																			
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55																			
6	78	66	59	53	76	65	58	53	64	57	53	62	57	52	61	56	52	50																			
7	73	61	53	48	71	60	53	48	59	52	48	58	52	47	56	51	47	45																			
8	68	56	49	44	67	56	49	44	55	48	43	53	47	43	52	47	43	41																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	43	39	38																			
10	61	49	42	37	59	48	41	37	47	41	37	46	41	37	46	40	36	35																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	23982	23982	23982
5°	24510	24017	22816
10°	24461	23635	21086
15°	24431	23192	19243
20°	24188	22213	17342
25°	23877	20808	15577
30°	23223	18818	14035
35°	21692	16105	12578
40°	19425	13090	11882
45°	16879	10096	8866
50°	14924	7462	3222
55°	13782	5510	758
60°	13080	4030	439
65°	12643	2965	255
70°	12274	2077	164
75°	11795	1264	216
80°	7215	620	322
85°	0	0	642



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.0	5.8
10°-20°	141.4	15.6
20°-30°	194.8	21.6
30°-40°	200.1	22.1
40°-50°	156.3	17.3
50°-60°	88.0	9.7
60°-70°	47.8	5.3
70°-80°	21.3	2.4
80°-90°	2.0	0.2
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°	388.1	42.9
0°-40°	588.2	65.1
0°-60°	832.5	92.1
0°-90°	903.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	903.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	557	557	557	557	557	
5°	567	565	556	536	528	54
15°	548	544	520	458	432	154
25°	503	490	438	351	328	231
35°	413	411	306	239	239	256
45°	277	296	166	137	146	215
55°	184	175	73	42	10	165
65°	124	92	29	4	2	123
75°	71	37	8	1	1	71
85°	0	1	0	1	1	6
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0
2.5°	560.8	564.6	563.3	565.9	567.1	567.1	567.1	562.1	563.3	560.8	560.8
5°	567.1	569.7	568.4	570.9	572.2	572.2	572.2	567.1	568.4	564.6	564.6
7.5°	565.9	568.4	567.1	569.7	572.2	572.2	570.9	567.1	567.1	563.3	563.3
10°	559.5	562.1	562.1	563.3	565.9	565.9	564.6	560.8	560.8	557.0	557.0
12.5°	553.2	557.0	555.7	558.3	559.5	559.5	559.5	554.5	554.5	550.7	550.7
15°	548.1	551.9	550.7	553.2	554.5	554.5	553.2	549.4	548.1	544.3	544.3
17.5°	539.3	543.1	540.6	543.1	545.6	544.3	543.1	539.3	538.0	533.0	533.0
20°	527.9	530.4	529.2	530.4	533.0	533.0	531.7	526.6	525.4	520.3	519.0
22.5°	515.2	517.8	516.5	517.8	520.3	519.0	517.8	512.7	510.2	505.1	503.8
25°	502.6	505.1	503.8	505.1	507.6	506.4	503.8	498.8	496.2	489.9	488.6
27.5°	486.1	488.6	487.4	489.9	492.4	491.2	488.6	483.6	479.8	472.2	470.9
30°	467.1	469.7	468.4	469.7	472.2	472.2	469.7	465.9	462.1	454.5	450.7
32.5°	441.8	445.6	444.3	448.1	450.7	450.7	450.7	445.6	441.8	434.2	429.1
35°	412.7	416.5	415.2	419.0	422.8	425.4	426.6	424.1	421.6	411.4	405.1
37.5°	379.8	383.6	382.3	387.4	392.4	396.2	398.8	397.5	396.2	387.4	379.8
40°	345.6	348.1	348.1	351.9	359.5	364.6	368.4	368.4	367.1	359.5	353.2
42.5°	310.2	313.9	313.9	319.0	325.3	331.7	334.2	336.7	338.0	329.1	322.8
45°	277.2	279.8	279.8	283.6	291.2	297.5	301.3	303.8	305.1	296.2	289.9
47.5°	246.9	249.4	250.7	255.7	259.5	264.6	268.4	269.6	270.9	264.6	257.0
50°	222.8	224.1	225.3	229.1	231.7	235.5	238.0	239.3	239.3	230.4	224.1
52.5°	201.3	202.5	202.5	206.3	208.9	211.4	211.4	211.4	210.1	202.5	192.4
55°	183.6	184.8	184.8	187.4	188.6	189.9	188.6	186.1	183.6	174.7	164.6
57.5°	167.1	168.4	168.4	169.6	169.6	169.6	167.1	164.6	159.5	149.4	140.5
60°	151.9	153.2	153.2	154.4	154.4	153.2	149.4	144.3	138.0	127.9	119.0
62.5°	138.0	139.3	139.3	139.3	139.3	136.7	131.7	125.3	117.7	110.1	101.3
65°	124.1	125.3	124.1	125.3	124.1	120.3	113.9	107.6	100.0	92.4	84.8
67.5°	110.1	111.4	110.1	110.1	107.6	103.8	97.5	91.1	84.8	77.2	69.6
70°	97.5	97.5	96.2	94.9	91.1	87.3	81.0	76.0	69.6	63.3	57.0
72.5°	83.6	84.8	82.3	79.8	76.0	70.9	65.8	60.8	55.7	49.4	44.3
75°	70.9	70.9	67.1	64.6	60.8	57.0	51.9	46.8	41.8	36.7	32.9
77.5°	53.2	53.2	49.4	48.1	44.3	41.8	36.7	32.9	29.1	26.6	22.8
80°	29.1	29.1	27.9	26.6	25.3	24.1	21.5	20.3	17.7	15.2	12.7
82.5°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	6.3	5.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0
2.5°	559.5	562.1	558.3	562.1	560.8	553.2	560.8	557.0	554.5	557.0	553.2
5°	563.3	564.6	560.8	564.6	562.1	554.5	559.5	555.7	553.2	554.5	549.4
7.5°	562.1	563.3	559.5	562.1	558.3	550.7	555.7	550.7	546.9	546.9	540.6
10°	555.7	557.0	551.9	554.5	550.7	541.8	546.9	540.6	536.8	534.2	527.9
12.5°	549.4	549.4	545.6	546.9	543.1	534.2	536.8	530.4	525.4	522.8	514.0
15°	541.8	541.8	538.0	539.3	534.2	525.4	527.9	520.3	514.0	510.2	500.0
17.5°	530.4	530.4	525.4	526.6	520.3	511.4	514.0	503.8	497.5	491.2	481.1
20°	515.2	514.0	508.9	508.9	502.6	492.4	495.0	484.8	476.0	469.7	458.3
22.5°	500.0	497.5	492.4	491.2	483.6	472.2	473.5	462.1	453.2	445.6	432.9
25°	482.3	478.5	472.2	469.7	462.1	450.7	450.7	438.0	429.1	419.0	406.4
27.5°	464.6	459.5	450.7	446.9	436.7	424.1	422.8	410.2	400.0	389.9	376.0
30°	443.1	436.7	425.4	420.3	408.9	395.0	391.2	378.5	367.1	355.7	344.3
32.5°	419.0	411.4	398.8	391.2	377.2	362.1	358.3	343.1	332.9	321.5	308.9
35°	393.7	383.6	369.7	359.5	344.3	329.1	321.5	306.4	296.2	284.8	274.7
37.5°	367.1	354.5	338.0	326.6	308.9	295.0	284.8	269.6	259.5	249.4	240.5
40°	339.3	324.1	306.4	291.2	273.4	259.5	248.1	232.9	224.1	215.2	207.6
42.5°	308.9	292.4	273.4	257.0	238.0	224.1	211.4	198.8	189.9	181.0	174.7
45°	276.0	259.5	239.3	222.8	203.8	189.9	178.5	165.8	158.2	150.6	145.6
47.5°	241.8	226.6	206.3	189.9	172.2	159.5	148.1	136.7	129.1	124.1	120.3
50°	208.9	193.7	176.0	159.5	143.0	131.7	121.5	111.4	105.1	100.0	96.2
52.5°	178.5	164.6	148.1	134.2	119.0	107.6	98.7	91.1	84.8	79.8	76.0
55°	151.9	139.3	124.1	111.4	98.7	88.6	81.0	73.4	68.4	62.0	58.2
57.5°	127.9	116.5	103.8	92.4	79.8	72.2	65.8	58.2	53.2	49.4	44.3
60°	108.9	98.7	86.1	76.0	65.8	59.5	53.2	46.8	43.0	38.0	34.2
62.5°	91.1	82.3	72.2	62.0	53.2	48.1	43.0	38.0	32.9	29.1	25.3
65°	76.0	67.1	58.2	49.4	43.0	38.0	34.2	29.1	25.3	21.5	17.7
67.5°	62.0	54.4	45.6	39.2	34.2	30.4	26.6	21.5	19.0	15.2	12.7
70°	49.4	43.0	35.4	30.4	26.6	22.8	19.0	16.5	12.7	10.1	7.6
72.5°	38.0	32.9	26.6	22.8	20.3	16.5	13.9	11.4	8.9	7.6	5.1
75°	27.9	22.8	19.0	16.5	13.9	11.4	8.9	7.6	6.3	3.8	2.5
77.5°	19.0	15.2	12.7	10.1	8.9	7.6	5.1	5.1	3.8	2.5	1.3
80°	11.4	7.6	6.3	5.1	3.8	3.8	2.5	2.5	1.3	1.3	0.0
82.5°	3.8	2.5	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0	557.0
2.5°	548.1	550.7	548.1	550.7	550.7	545.6	546.9	546.9	543.1	543.1	544.3
5°	543.1	543.1	540.6	541.8	541.8	535.5	535.5	535.5	530.4	529.2	529.2
7.5°	534.2	533.0	527.9	527.9	526.6	520.3	517.8	516.5	511.4	510.2	508.9
10°	520.3	517.8	511.4	510.2	507.6	500.0	496.2	493.7	488.6	486.1	486.1
12.5°	505.1	502.6	495.0	492.4	487.4	478.5	474.7	472.2	464.6	460.8	460.8
15°	489.9	486.1	477.3	472.2	467.1	458.3	453.2	449.4	441.8	438.0	436.7
17.5°	469.7	464.6	455.7	449.4	443.1	434.2	429.1	422.8	416.5	412.7	410.2
20°	445.6	439.3	427.9	422.8	416.5	406.4	400.0	396.2	388.6	384.8	383.6
22.5°	420.3	412.7	401.3	395.0	387.4	378.5	374.7	368.4	362.1	359.5	357.0
25°	392.4	386.1	373.4	367.1	359.5	350.7	346.9	341.8	336.7	335.5	331.7
27.5°	362.1	355.7	345.6	338.0	331.7	322.8	319.0	315.2	310.2	308.9	307.6
30°	330.4	324.1	313.9	307.6	301.3	295.0	291.2	287.4	283.6	283.6	283.6
32.5°	297.5	291.2	283.6	277.2	272.2	267.1	264.6	260.8	258.2	259.5	260.8
35°	263.3	259.5	251.9	248.1	244.3	239.3	238.0	235.5	232.9	234.2	234.2
37.5°	230.4	227.9	222.8	219.0	216.5	212.7	212.7	210.1	207.6	210.1	210.1
40°	198.8	196.2	192.4	191.2	188.6	187.4	186.1	186.1	184.8	187.4	192.4
42.5°	168.4	167.1	164.6	163.3	162.0	160.8	162.0	162.0	164.6	173.4	183.6
45°	140.5	140.5	138.0	138.0	136.7	136.7	138.0	141.8	149.4	159.5	160.8
47.5°	115.2	115.2	112.7	112.7	112.7	112.7	117.7	124.1	122.8	117.7	106.3
50°	92.4	91.1	89.9	89.9	89.9	92.4	94.9	87.3	77.2	65.8	59.5
52.5°	72.2	69.6	68.4	68.4	69.6	69.6	62.0	50.6	43.0	39.2	34.2
55°	54.4	51.9	49.4	49.4	48.1	41.8	32.9	29.1	22.8	20.3	17.7
57.5°	39.2	38.0	34.2	31.6	26.6	21.5	17.7	12.7	11.4	8.9	7.6
60°	29.1	26.6	22.8	19.0	15.2	11.4	7.6	6.3	6.3	5.1	5.1
62.5°	21.5	19.0	15.2	11.4	7.6	5.1	5.1	5.1	3.8	3.8	3.8
65°	15.2	12.7	8.9	6.3	3.8	3.8	3.8	3.8	3.8	2.5	2.5
67.5°	10.1	7.6	3.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
70°	6.3	3.8	1.3	2.5	1.3	1.3	2.5	2.5	2.5	2.5	1.3
72.5°	2.5	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
75°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
77.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3
85°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
87.5°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	0.0	0.0	0.0	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):**

	165°	170°	175°	180°
0°	557.0	557.0	557.0	557.0
2.5°	541.8	541.8	543.1	544.3
5°	526.6	527.9	527.9	527.9
7.5°	506.4	506.4	507.6	507.6
10°	481.1	481.1	482.3	482.3
12.5°	457.0	455.7	457.0	457.0
15°	432.9	431.7	431.7	431.7
17.5°	406.4	405.1	405.1	406.4
20°	379.8	378.5	378.5	378.5
22.5°	353.2	353.2	353.2	353.2
25°	329.1	327.9	327.9	327.9
27.5°	305.1	305.1	305.1	305.1
30°	281.0	281.0	282.3	282.3
32.5°	259.5	259.5	259.5	259.5
35°	234.2	236.7	238.0	239.3
37.5°	211.4	215.2	219.0	220.3
40°	197.5	205.1	210.1	211.4
42.5°	191.2	197.5	200.0	201.3
45°	157.0	150.6	146.8	145.6
47.5°	96.2	87.3	82.3	81.0
50°	55.7	51.9	49.4	48.1
52.5°	30.4	26.6	25.3	25.3
55°	15.2	12.7	11.4	10.1
57.5°	6.3	6.3	6.3	6.3
60°	5.1	5.1	5.1	5.1
62.5°	3.8	3.8	3.8	3.8
65°	2.5	2.5	2.5	2.5
67.5°	2.5	2.5	2.5	2.5
70°	1.3	1.3	1.3	1.3
72.5°	1.3	1.3	1.3	1.3
75°	1.3	1.3	1.3	1.3
77.5°	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	0.0	1.3
85°	1.3	1.3	1.3	1.3
87.5°	0.0	1.3	0.0	1.3
90°	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°















(END OF REPORT)