

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P709101

Luminaire Tested: **4APN-X-22L940-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709101
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-X-22L940-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

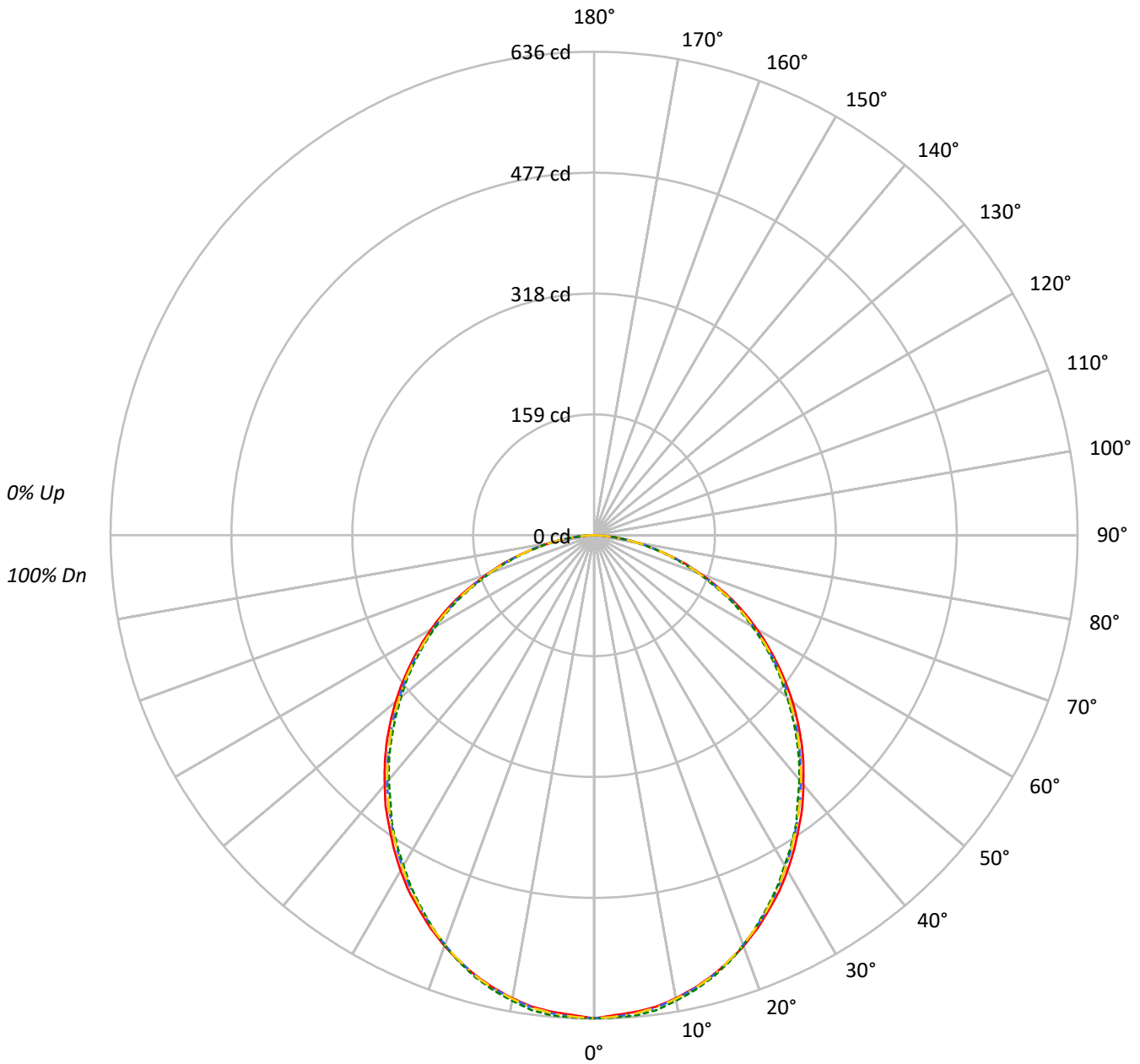
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1653.5 lumens
Efficiency: N/A
Efficacy: 68.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.18 / 1.3
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 24
Input Voltage (V): 120
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



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	73	73	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	62	62	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	53	53	53	51
5	76	64	55	48	74	63	54	48	60	53	47	59	52	47	57	51	46	46	46	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	41	41	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	36	36	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	33	33	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	30	30	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5863	5863	5863	5863
5°	5828	5872	5828	5872
10°	5794	5823	5794	5823
15°	5729	5752	5729	5752
20°	5646	5638	5646	5638
25°	5538	5490	5538	5490
30°	5424	5341	5424	5341
35°	5288	5218	5288	5218
40°	5158	5056	5158	5056
45°	5033	4911	5033	4911
50°	4890	4755	4890	4755
55°	4731	4618	4731	4618
60°	4567	4440	4567	4440
65°	4371	4235	4371	4235
70°	4041	3914	4041	3914
75°	3650	3540	3650	3540
80°	3135	3050	3135	3050
85°	2382	2382	2382	2382



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.0	3.6
10°-20°	169.4	10.2
20°-30°	249.7	15.1
30°-40°	291.5	17.6
40°-50°	293.8	17.8
50°-60°	259.7	15.7
60°-70°	194.2	11.7
70°-80°	107.7	6.5
80°-90°	27.6	1.7
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°	479.0	29.0
0°-40°	770.5	46.6
0°-60°	1324.0	80.1
0°-90°	1653.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1653.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	636	636	636	636	636	
5°	629	634	629	634	629	60
15°	600	602	600	602	600	169
25°	544	539	544	539	544	251
35°	470	463	470	463	470	294
45°	386	376	386	376	386	297
55°	294	287	294	287	294	263
65°	200	194	200	194	200	197
75°	102	99	102	99	102	109
85°	22	22	22	22	22	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5
2.5°	631.7	634.8	637.9	637.1	634.8	633.2	634.0	634.0	634.8	634.8	634.8
5°	629.3	632.4	634.8	634.0	631.7	630.9	630.9	630.9	632.4	634.0	632.4
7.5°	625.5	627.8	630.1	629.3	627.0	626.2	626.2	627.0	628.6	630.1	628.6
10°	618.5	621.6	623.9	622.3	620.0	618.5	618.5	618.5	620.0	621.6	620.0
12.5°	609.9	612.3	614.6	613.8	611.5	609.9	609.9	609.9	611.5	613.0	611.5
15°	599.8	602.2	604.5	603.7	601.4	599.8	599.8	599.8	601.4	602.2	601.4
17.5°	588.2	590.5	592.9	591.3	588.2	586.7	586.7	586.7	588.2	589.0	588.2
20°	575.0	577.3	578.9	577.3	574.2	572.7	571.9	571.9	573.5	574.2	573.5
22.5°	560.3	561.8	563.4	561.8	558.7	557.2	556.4	555.6	556.4	557.2	556.4
25°	544.0	545.5	547.1	545.5	542.4	540.1	539.3	538.5	539.3	539.3	539.3
27.5°	527.7	528.5	530.0	527.7	524.6	522.2	521.5	520.7	521.5	521.5	521.5
30°	509.1	509.8	511.4	509.1	505.2	502.8	502.1	501.3	501.3	501.3	501.3
32.5°	489.7	491.2	492.8	489.7	485.8	483.4	482.7	481.9	482.7	482.7	482.7
35°	469.5	470.3	471.8	469.5	465.6	463.3	461.7	460.9	462.5	463.3	462.5
37.5°	450.1	450.9	451.6	449.3	445.4	443.1	441.5	440.8	440.0	440.0	440.0
40°	428.3	429.1	430.7	428.3	424.5	422.1	420.6	419.8	419.8	419.8	419.8
42.5°	407.4	408.2	408.9	406.6	402.7	400.4	398.9	398.1	398.9	398.9	398.9
45°	385.7	385.7	386.4	384.1	381.0	378.7	377.1	376.4	376.4	376.4	376.4
47.5°	363.2	363.9	364.7	362.4	359.3	357.0	355.4	353.9	353.9	353.9	353.9
50°	340.7	340.7	341.4	339.1	336.0	333.7	332.9	332.1	331.3	331.3	331.3
52.5°	317.4	318.2	318.9	316.6	314.3	312.0	310.4	309.6	309.6	309.6	309.6
55°	294.1	294.1	294.9	293.3	291.0	288.7	287.1	286.3	287.1	287.1	287.1
57.5°	270.8	271.6	272.4	270.0	267.7	265.4	264.6	263.8	263.8	263.8	263.8
60°	247.5	247.5	248.3	246.8	244.4	242.1	241.3	240.6	240.6	240.6	240.6
62.5°	224.3	224.3	225.0	223.5	221.2	218.8	218.1	217.3	217.3	217.3	217.3
65°	200.2	200.2	200.2	198.7	197.1	196.3	195.6	194.8	194.0	194.0	194.0
67.5°	173.8	173.8	174.6	173.0	171.5	170.7	169.9	169.2	168.4	168.4	168.4
70°	149.8	149.8	150.5	149.8	148.2	147.4	146.7	145.9	145.1	145.1	145.1
72.5°	126.5	126.5	126.5	125.7	124.9	124.2	123.4	122.6	121.8	121.8	121.8
75°	102.4	102.4	103.2	102.4	101.7	100.9	100.1	100.1	99.3	99.3	99.3
77.5°	79.9	80.7	81.5	80.7	79.9	79.2	78.4	78.4	77.6	77.6	77.6
80°	59.0	59.8	60.5	59.8	59.0	58.2	57.4	57.4	57.4	57.4	57.4
82.5°	39.6	40.4	41.1	40.4	39.6	39.6	38.8	38.8	38.8	38.8	38.8
85°	22.5	23.3	24.1	24.1	23.3	23.3	22.5	22.5	22.5	22.5	22.5
87.5°	8.5	9.3	10.1	10.1	9.3	9.3	9.3	9.3	9.3	9.3	9.3
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5
2.5°	634.0	634.0	633.2	634.8	637.1	637.9	634.8	631.7	634.8	637.9	637.1
5°	630.9	630.9	630.9	631.7	634.0	634.8	632.4	629.3	632.4	634.8	634.0
7.5°	627.0	626.2	626.2	627.0	629.3	630.1	627.8	625.5	627.8	630.1	629.3
10°	618.5	618.5	618.5	620.0	622.3	623.9	621.6	618.5	621.6	623.9	622.3
12.5°	609.9	609.9	609.9	611.5	613.8	614.6	612.3	609.9	612.3	614.6	613.8
15°	599.8	599.8	599.8	601.4	603.7	604.5	602.2	599.8	602.2	604.5	603.7
17.5°	586.7	586.7	586.7	588.2	591.3	592.9	590.5	588.2	590.5	592.9	591.3
20°	571.9	571.9	572.7	574.2	577.3	578.9	577.3	575.0	577.3	578.9	577.3
22.5°	555.6	556.4	557.2	558.7	561.8	563.4	561.8	560.3	561.8	563.4	561.8
25°	538.5	539.3	540.1	542.4	545.5	547.1	545.5	544.0	545.5	547.1	545.5
27.5°	520.7	521.5	522.2	524.6	527.7	530.0	528.5	527.7	528.5	530.0	527.7
30°	501.3	502.1	502.8	505.2	509.1	511.4	509.8	509.1	509.8	511.4	509.1
32.5°	481.9	482.7	483.4	485.8	489.7	492.8	491.2	489.7	491.2	492.8	489.7
35°	460.9	461.7	463.3	465.6	469.5	471.8	470.3	469.5	470.3	471.8	469.5
37.5°	440.8	441.5	443.1	445.4	449.3	451.6	450.9	450.1	450.9	451.6	449.3
40°	419.8	420.6	422.1	424.5	428.3	430.7	429.1	428.3	429.1	430.7	428.3
42.5°	398.1	398.9	400.4	402.7	406.6	408.9	408.2	407.4	408.2	408.9	406.6
45°	376.4	377.1	378.7	381.0	384.1	386.4	385.7	385.7	385.7	386.4	384.1
47.5°	353.9	355.4	357.0	359.3	362.4	364.7	363.9	363.2	363.9	364.7	362.4
50°	332.1	332.9	333.7	336.0	339.1	341.4	340.7	340.7	340.7	341.4	339.1
52.5°	309.6	310.4	312.0	314.3	316.6	318.9	318.2	317.4	318.2	318.9	316.6
55°	286.3	287.1	288.7	291.0	293.3	294.9	294.1	294.1	294.1	294.9	293.3
57.5°	263.8	264.6	265.4	267.7	270.0	272.4	271.6	270.8	271.6	272.4	270.0
60°	240.6	241.3	242.1	244.4	246.8	248.3	247.5	247.5	247.5	248.3	246.8
62.5°	217.3	218.1	218.8	221.2	223.5	225.0	224.3	224.3	224.3	225.0	223.5
65°	194.8	195.6	196.3	197.1	198.7	200.2	200.2	200.2	200.2	200.2	198.7
67.5°	169.2	169.9	170.7	171.5	173.0	174.6	173.8	173.8	173.8	174.6	173.0
70°	145.9	146.7	147.4	148.2	149.8	150.5	149.8	149.8	149.8	150.5	149.8
72.5°	122.6	123.4	124.2	124.9	125.7	126.5	126.5	126.5	126.5	126.5	125.7
75°	100.1	100.1	100.9	101.7	102.4	103.2	102.4	102.4	102.4	103.2	102.4
77.5°	78.4	78.4	79.2	79.9	80.7	81.5	80.7	79.9	80.7	81.5	80.7
80°	57.4	57.4	58.2	59.0	59.8	60.5	59.8	59.0	59.8	60.5	59.8
82.5°	38.8	38.8	39.6	39.6	40.4	41.1	40.4	39.6	40.4	41.1	40.4
85°	22.5	22.5	23.3	23.3	24.1	24.1	23.3	22.5	23.3	24.1	24.1
87.5°	9.3	9.3	9.3	9.3	10.1	10.1	9.3	8.5	9.3	10.1	10.1
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5	635.5
2.5°	634.8	633.2	634.0	634.0	634.8	634.8	634.8	634.0	634.0	633.2	634.8
5°	631.7	630.9	630.9	630.9	632.4	634.0	632.4	630.9	630.9	630.9	631.7
7.5°	627.0	626.2	626.2	627.0	628.6	630.1	628.6	627.0	626.2	626.2	627.0
10°	620.0	618.5	618.5	618.5	620.0	621.6	620.0	618.5	618.5	618.5	620.0
12.5°	611.5	609.9	609.9	609.9	611.5	613.0	611.5	609.9	609.9	609.9	611.5
15°	601.4	599.8	599.8	599.8	601.4	602.2	601.4	599.8	599.8	599.8	601.4
17.5°	588.2	586.7	586.7	586.7	588.2	589.0	588.2	586.7	586.7	586.7	588.2
20°	574.2	572.7	571.9	571.9	573.5	574.2	573.5	571.9	571.9	572.7	574.2
22.5°	558.7	557.2	556.4	555.6	556.4	557.2	556.4	555.6	556.4	557.2	558.7
25°	542.4	540.1	539.3	538.5	539.3	539.3	539.3	538.5	539.3	540.1	542.4
27.5°	524.6	522.2	521.5	520.7	521.5	521.5	521.5	520.7	521.5	522.2	524.6
30°	505.2	502.8	502.1	501.3	501.3	501.3	501.3	501.3	502.1	502.8	505.2
32.5°	485.8	483.4	482.7	481.9	482.7	482.7	482.7	481.9	482.7	483.4	485.8
35°	465.6	463.3	461.7	460.9	462.5	463.3	462.5	460.9	461.7	463.3	465.6
37.5°	445.4	443.1	441.5	440.8	440.0	440.0	440.0	440.8	441.5	443.1	445.4
40°	424.5	422.1	420.6	419.8	419.8	419.8	419.8	419.8	420.6	422.1	424.5
42.5°	402.7	400.4	398.9	398.1	398.9	398.9	398.9	398.1	398.9	400.4	402.7
45°	381.0	378.7	377.1	376.4	376.4	376.4	376.4	376.4	377.1	378.7	381.0
47.5°	359.3	357.0	355.4	353.9	353.9	353.9	353.9	353.9	355.4	357.0	359.3
50°	336.0	333.7	332.9	332.1	331.3	331.3	331.3	332.1	332.9	333.7	336.0
52.5°	314.3	312.0	310.4	309.6	309.6	309.6	309.6	309.6	310.4	312.0	314.3
55°	291.0	288.7	287.1	286.3	287.1	287.1	287.1	286.3	287.1	288.7	291.0
57.5°	267.7	265.4	264.6	263.8	263.8	263.8	263.8	263.8	264.6	265.4	267.7
60°	244.4	242.1	241.3	240.6	240.6	240.6	240.6	240.6	241.3	242.1	244.4
62.5°	221.2	218.8	218.1	217.3	217.3	217.3	217.3	217.3	218.1	218.8	221.2
65°	197.1	196.3	195.6	194.8	194.0	194.0	194.0	194.8	195.6	196.3	197.1
67.5°	171.5	170.7	169.9	169.2	168.4	168.4	168.4	169.2	169.9	170.7	171.5
70°	148.2	147.4	146.7	145.9	145.1	145.1	145.1	145.9	146.7	147.4	148.2
72.5°	124.9	124.2	123.4	122.6	121.8	121.8	121.8	122.6	123.4	124.2	124.9
75°	101.7	100.9	100.1	100.1	99.3	99.3	99.3	100.1	100.1	100.9	101.7
77.5°	79.9	79.2	78.4	78.4	77.6	77.6	77.6	78.4	78.4	79.2	79.9
80°	59.0	58.2	57.4	57.4	57.4	57.4	57.4	57.4	57.4	58.2	59.0
82.5°	39.6	39.6	38.8	38.8	38.8	38.8	38.8	38.8	38.8	39.6	39.6
85°	23.3	23.3	22.5	22.5	22.5	22.5	22.5	22.5	22.5	23.3	23.3
87.5°	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
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: P709101
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CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	635.5	635.5	635.5	635.5
2.5°	637.1	637.9	634.8	631.7
5°	634.0	634.8	632.4	629.3
7.5°	629.3	630.1	627.8	625.5
10°	622.3	623.9	621.6	618.5
12.5°	613.8	614.6	612.3	609.9
15°	603.7	604.5	602.2	599.8
17.5°	591.3	592.9	590.5	588.2
20°	577.3	578.9	577.3	575.0
22.5°	561.8	563.4	561.8	560.3
25°	545.5	547.1	545.5	544.0
27.5°	527.7	530.0	528.5	527.7
30°	509.1	511.4	509.8	509.1
32.5°	489.7	492.8	491.2	489.7
35°	469.5	471.8	470.3	469.5
37.5°	449.3	451.6	450.9	450.1
40°	428.3	430.7	429.1	428.3
42.5°	406.6	408.9	408.2	407.4
45°	384.1	386.4	385.7	385.7
47.5°	362.4	364.7	363.9	363.2
50°	339.1	341.4	340.7	340.7
52.5°	316.6	318.9	318.2	317.4
55°	293.3	294.9	294.1	294.1
57.5°	270.0	272.4	271.6	270.8
60°	246.8	248.3	247.5	247.5
62.5°	223.5	225.0	224.3	224.3
65°	198.7	200.2	200.2	200.2
67.5°	173.0	174.6	173.8	173.8
70°	149.8	150.5	149.8	149.8
72.5°	125.7	126.5	126.5	126.5
75°	102.4	103.2	102.4	102.4
77.5°	80.7	81.5	80.7	79.9
80°	59.8	60.5	59.8	59.0
82.5°	40.4	41.1	40.4	39.6
85°	24.1	24.1	23.3	22.5
87.5°	10.1	10.1	9.3	8.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)