

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: P

Luminaire Tested: **4APN-28L935-X-UNV-NP**

Issue Date: 06/06/2024



Test Information

Test Method: LM-79-08
Report Number: P
Test Lab: INNOVATION CENTER(G2)
Issue Date: 06/06/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-28L935-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

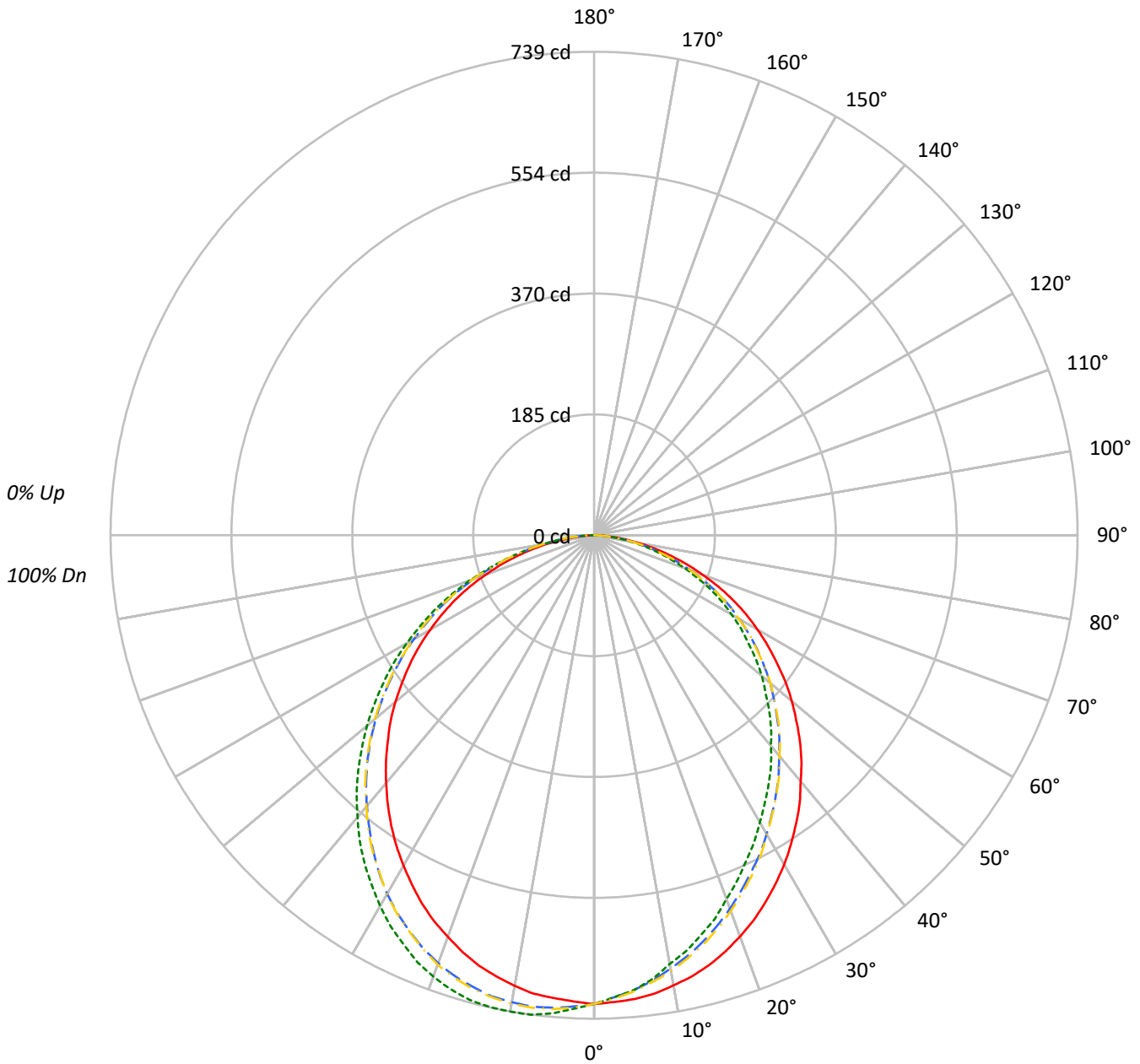
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1921.7 lumens
Efficiency: N/A
Efficacy: 59.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 32.2
Input Voltage (V): 120
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



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



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	6611	6611	6611	6611
5°	6591	6464	6576	6793
10°	6546	6235	6553	6926
15°	6496	6039	6504	7022
20°	6406	5809	6414	7051
25°	6303	5594	6329	7021
30°	6191	5397	6209	6970
35°	6062	5240	6090	6892
40°	5915	5067	5956	6775
45°	5806	4939	5817	6653
50°	5665	4806	5690	6504
55°	5488	4629	5527	6323
60°	5325	4486	5338	6102
65°	5115	4299	5115	5840
70°	4767	3979	4745	5444
75°	4335	3611	4278	4884
80°	3746	3103	3613	4176
85°	2922	2318	2742	3440



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.7	3.5
10°-20°	192.1	10.0
20°-30°	285.7	14.9
30°-40°	336.7	17.5
40°-50°	342.8	17.8
50°-60°	305.4	15.9
60°-70°	230.1	12.0
70°-80°	128.0	6.7
80°-90°	33.2	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°	545.5	28.4
0°-40°	882.2	45.9
0°-60°	1530.4	79.6
0°-90°	1921.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1921.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	716	716	716	716	716	
5°	712	698	710	734	712	68
15°	680	632	681	735	680	192
25°	619	550	622	690	619	285
35°	538	465	541	612	538	337
45°	445	378	446	510	445	343
55°	341	288	344	393	341	306
65°	234	197	234	268	234	231
75°	122	101	120	137	122	129
85°	28	22	26	32	28	33
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°	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5
2.5°	714.1	714.1	714.9	711.7	707.6	706.0	705.1	704.4	706.0	706.8	706.0
5°	711.7	710.0	708.5	704.4	699.5	696.3	694.6	693.8	695.5	697.9	695.5
7.5°	706.8	703.6	700.4	694.6	689.0	684.1	681.6	680.1	681.6	684.1	682.5
10°	698.7	694.6	689.7	683.3	675.2	669.6	667.1	664.7	665.5	665.5	665.5
12.5°	690.6	685.0	679.2	671.1	662.2	655.7	651.7	648.4	650.1	650.8	650.8
15°	680.1	672.8	664.7	655.7	646.8	639.5	634.7	631.4	632.2	632.2	633.0
17.5°	667.1	659.0	650.8	640.3	629.8	621.7	616.0	611.9	613.6	614.4	615.3
20°	652.5	643.6	634.7	623.3	611.9	603.1	597.4	592.5	591.7	591.7	592.5
22.5°	637.1	627.3	616.8	604.6	592.5	582.8	577.1	572.3	571.5	571.5	572.3
25°	619.2	608.7	598.2	586.0	573.0	563.3	556.1	551.2	550.3	549.5	551.2
27.5°	600.6	590.1	579.6	567.4	553.6	543.9	536.6	531.7	530.1	529.3	530.9
30°	581.1	569.0	557.6	544.7	532.5	522.8	515.5	509.9	508.2	506.6	508.2
32.5°	560.1	547.9	535.8	522.8	510.6	500.9	493.6	487.9	486.4	485.5	487.2
35°	538.2	526.0	514.7	501.8	489.6	479.8	472.5	467.7	466.1	465.2	466.1
37.5°	516.3	504.1	492.8	479.8	467.7	458.0	450.7	445.8	445.0	444.2	445.0
40°	491.1	480.6	469.3	457.1	445.0	435.3	429.6	423.9	422.3	420.7	423.1
42.5°	469.3	458.8	447.4	436.1	423.9	414.2	407.7	402.8	401.3	400.4	401.3
45°	445.0	433.6	422.3	411.8	400.4	391.5	385.0	380.1	379.3	378.5	379.3
47.5°	419.0	409.4	399.6	389.1	377.7	368.8	363.1	358.3	356.6	355.1	356.6
50°	394.7	385.0	375.3	365.6	355.1	346.9	341.2	336.3	335.6	334.8	335.6
52.5°	368.8	359.1	350.2	340.4	331.6	323.4	317.7	313.7	312.8	312.1	312.8
55°	341.2	333.1	325.0	316.9	308.0	300.8	295.9	291.0	289.3	287.8	289.3
57.5°	315.3	308.0	299.9	291.8	283.7	277.2	272.4	268.3	267.5	266.6	267.5
60°	288.6	282.0	274.8	267.5	259.4	252.9	248.8	245.6	244.0	243.1	244.0
62.5°	261.8	255.3	249.7	242.4	235.0	230.2	226.2	222.9	221.3	220.5	221.3
65°	234.3	228.6	222.9	216.4	210.8	205.9	201.8	198.6	197.8	196.9	196.9
67.5°	205.9	201.0	196.1	190.5	184.0	179.1	175.1	172.7	171.9	171.0	171.9
70°	176.7	172.7	167.8	162.9	158.0	154.0	151.6	149.2	148.3	147.5	147.5
72.5°	149.2	145.9	141.8	137.8	133.8	129.7	127.2	125.7	124.8	124.0	124.0
75°	121.6	118.4	115.9	112.7	108.6	106.2	103.7	102.2	101.3	101.3	101.3
77.5°	95.6	93.2	90.8	87.5	85.1	82.7	81.0	80.2	79.5	79.5	79.5
80°	70.5	68.9	67.3	65.6	63.2	60.8	60.0	59.2	58.4	58.4	58.4
82.5°	47.9	47.0	45.4	43.8	42.1	41.3	40.6	39.7	39.7	39.7	39.7
85°	27.6	26.7	25.9	25.2	24.3	24.3	23.5	22.7	21.9	21.9	21.9
87.5°	11.3	11.3	11.3	10.5	9.7	9.7	9.7	9.7	9.7	9.7	9.7
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°	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5
2.5°	704.4	706.0	707.6	710.0	712.4	714.9	714.1	713.3	716.5	720.5	721.4
5°	693.8	695.5	697.9	701.9	706.0	709.2	710.0	710.0	716.5	722.2	723.9
7.5°	680.9	683.3	686.5	690.6	696.3	701.1	703.6	706.8	713.3	720.5	723.9
10°	664.7	668.7	673.6	679.2	685.0	690.6	695.5	699.5	707.6	715.7	720.5
12.5°	650.1	654.2	659.0	665.5	672.8	680.1	685.0	690.6	700.4	710.0	715.7
15°	633.9	637.9	643.6	650.1	658.1	666.2	673.6	680.9	690.6	701.1	707.6
17.5°	616.0	620.0	625.8	633.9	642.7	651.7	659.8	667.9	679.2	690.6	697.9
20°	594.1	599.8	607.1	615.3	625.8	636.3	644.4	653.3	665.5	677.6	685.7
22.5°	573.0	578.7	586.9	596.5	607.9	619.2	629.0	638.7	651.7	663.8	672.8
25°	552.8	559.3	567.4	577.1	587.7	599.0	610.4	621.7	634.7	647.6	656.6
27.5°	532.5	538.2	546.3	556.1	568.2	579.6	590.9	602.3	616.0	629.8	639.5
30°	509.9	516.3	523.6	533.4	546.3	559.3	570.6	582.8	596.5	610.4	620.0
32.5°	488.8	494.5	501.8	511.4	524.4	537.4	549.5	562.5	575.5	589.3	599.0
35°	467.7	473.4	480.6	490.4	503.3	516.3	528.5	540.7	553.6	566.6	576.3
37.5°	446.6	452.2	459.6	469.3	481.5	494.5	505.8	518.0	530.9	543.9	552.8
40°	424.8	430.4	436.1	445.8	458.0	471.0	482.3	494.5	507.4	520.4	529.3
42.5°	402.8	408.5	415.8	425.5	436.8	448.3	459.6	471.0	483.1	495.2	504.1
45°	381.0	385.9	393.1	402.0	413.4	423.9	435.3	445.8	458.0	469.3	478.2
47.5°	358.3	363.1	368.8	377.7	389.1	400.4	411.8	422.3	432.9	444.2	452.2
50°	336.3	341.2	347.7	355.8	366.4	376.9	386.6	396.4	406.9	417.4	424.8
52.5°	313.7	318.6	324.2	332.3	341.2	351.0	359.9	369.6	379.3	389.1	396.4
55°	291.0	294.2	299.1	306.4	316.2	325.8	334.8	343.6	352.6	360.7	368.0
57.5°	268.3	272.4	278.0	284.5	292.6	300.8	308.8	316.9	325.0	333.1	339.7
60°	245.6	248.8	252.9	258.5	266.6	273.9	282.0	289.3	296.7	304.0	309.6
62.5°	222.1	225.3	229.4	235.0	241.6	248.0	255.3	261.8	268.3	274.8	280.5
65°	197.8	201.0	205.1	209.9	215.6	221.3	227.7	234.3	239.1	244.0	249.7
67.5°	172.7	175.9	180.0	184.0	188.8	194.5	200.2	205.9	210.8	215.6	219.6
70°	148.3	150.7	154.8	158.0	162.1	166.1	171.0	175.9	179.1	183.2	188.1
72.5°	124.8	127.2	130.5	133.8	136.2	139.4	144.3	148.3	152.4	157.2	159.7
75°	102.2	103.7	106.2	108.6	111.0	113.5	116.7	120.0	123.2	125.7	128.9
77.5°	79.5	81.0	83.4	85.1	86.8	88.3	90.8	93.2	95.6	97.3	100.5
80°	58.4	60.0	61.6	63.2	64.8	66.5	67.3	68.0	71.4	73.8	75.4
82.5°	39.7	40.6	41.3	43.0	43.8	44.6	45.4	45.4	47.0	48.6	51.1
85°	22.7	23.5	24.3	24.3	24.3	24.3	25.2	25.9	26.7	28.4	30.0
87.5°	8.9	8.9	9.7	9.7	9.7	9.7	9.7	9.7	10.5	12.2	13.0
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5	716.5
2.5°	720.5	721.4	723.0	723.9	724.6	724.6	725.4	726.3	724.6	723.0	722.2
5°	724.6	725.4	727.9	730.3	731.9	733.5	732.7	731.9	730.3	727.9	726.3
7.5°	725.4	727.9	730.3	733.5	735.9	739.3	737.6	735.9	732.7	729.5	727.1
10°	723.0	726.3	730.3	734.4	736.8	739.3	737.6	735.9	732.7	728.7	725.4
12.5°	719.8	723.9	728.7	732.7	735.2	738.4	735.9	733.5	729.5	725.4	721.4
15°	712.4	717.3	723.0	727.9	731.9	735.2	732.7	731.1	726.3	720.5	714.9
17.5°	703.6	710.0	715.7	721.4	724.6	727.9	726.3	724.6	719.0	712.4	706.0
20°	693.0	699.5	705.1	710.9	714.9	718.1	715.7	713.3	707.6	701.9	695.5
22.5°	680.1	686.5	693.0	698.7	702.7	706.0	702.7	698.7	693.0	687.4	680.9
25°	663.8	671.1	678.4	684.1	686.5	689.7	686.5	683.3	677.6	672.0	664.7
27.5°	647.6	654.9	662.2	667.9	670.3	673.6	670.3	667.1	661.4	655.7	648.4
30°	629.0	636.3	643.6	649.3	651.7	654.2	650.8	647.6	642.7	637.1	629.8
32.5°	607.9	615.3	620.9	626.6	629.8	633.0	629.8	627.3	621.7	614.4	607.1
35°	585.2	592.5	599.8	605.5	608.7	611.9	607.9	603.8	599.0	593.3	586.9
37.5°	560.1	568.2	576.3	582.8	585.2	588.4	585.2	581.1	576.3	570.6	563.3
40°	536.6	543.9	551.2	557.6	560.1	562.5	559.3	556.1	550.3	544.7	537.4
42.5°	512.3	519.5	526.0	531.7	534.1	537.4	534.1	530.1	526.0	521.2	514.7
45°	486.4	493.6	499.3	505.0	507.4	509.9	506.6	502.6	498.5	494.5	487.9
47.5°	459.6	466.1	471.7	477.4	479.1	481.5	478.2	475.8	471.7	467.7	462.0
50°	432.0	438.5	444.2	449.0	450.7	453.1	449.8	446.6	443.4	440.2	435.3
52.5°	403.7	409.4	415.0	419.9	421.4	423.1	419.9	416.7	413.4	410.1	405.3
55°	374.5	380.1	385.9	389.9	391.5	393.1	389.9	387.4	384.2	381.8	376.9
57.5°	345.3	351.0	355.8	359.9	361.5	363.1	359.9	356.6	354.2	351.7	347.7
60°	315.3	320.9	325.0	328.2	329.9	330.7	327.5	325.0	323.4	321.8	317.7
62.5°	286.1	290.2	294.2	296.7	298.3	299.1	296.7	295.0	293.4	291.8	288.6
65°	255.3	260.2	263.4	265.9	266.6	267.5	265.1	263.4	261.8	260.2	257.8
67.5°	224.5	228.6	231.0	233.5	234.3	234.3	234.3	233.5	231.8	229.4	227.0
70°	193.7	196.9	199.4	201.0	201.8	201.8	200.2	198.6	198.6	197.8	196.1
72.5°	162.1	164.6	166.1	167.8	167.8	167.8	167.8	168.6	167.8	166.1	163.7
75°	132.1	134.5	136.2	137.0	137.0	137.0	137.0	137.8	137.0	136.2	134.5
77.5°	103.7	105.4	106.2	107.0	107.0	107.0	107.8	108.6	107.8	107.0	106.2
80°	77.0	77.8	78.6	79.5	78.6	78.6	79.5	81.0	80.2	79.5	78.6
82.5°	52.6	53.5	54.3	54.3	55.1	56.0	56.0	56.0	56.0	55.1	54.3
85°	31.6	32.5	32.5	32.5	32.5	32.5	33.2	34.0	34.0	33.2	33.2
87.5°	14.6	15.4	14.6	13.7	13.0	13.0	14.6	16.2	16.2	15.4	15.4
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: P
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CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	716.5	716.5	716.5	716.5
2.5°	723.0	722.2	718.1	714.1
5°	725.4	723.0	717.3	711.7
7.5°	725.4	722.2	714.1	706.8
10°	721.4	716.5	707.6	698.7
12.5°	716.5	710.9	700.4	690.6
15°	709.2	702.7	691.4	680.1
17.5°	698.7	690.6	679.2	667.1
20°	688.2	679.2	665.5	652.5
22.5°	673.6	665.5	650.8	637.1
25°	657.4	648.4	633.9	619.2
27.5°	640.3	629.8	615.3	600.6
30°	620.9	610.4	595.8	581.1
32.5°	599.8	590.1	575.5	560.1
35°	578.7	568.2	553.6	538.2
37.5°	555.2	545.5	530.9	516.3
40°	530.1	520.4	505.8	491.1
42.5°	506.6	497.7	483.1	469.3
45°	480.6	471.7	458.0	445.0
47.5°	453.9	445.0	432.0	419.0
50°	428.0	419.0	406.9	394.7
52.5°	398.8	391.5	380.1	368.8
55°	370.5	363.1	351.7	341.2
57.5°	342.1	335.6	325.0	315.3
60°	312.1	305.6	297.4	288.6
62.5°	283.7	278.0	269.9	261.8
65°	253.7	248.8	241.6	234.3
67.5°	222.9	218.9	212.3	205.9
70°	192.1	187.3	182.4	176.7
72.5°	161.3	158.9	154.0	149.2
75°	132.1	129.7	125.7	121.6
77.5°	104.6	102.2	98.9	95.6
80°	77.0	75.4	72.9	70.5
82.5°	53.5	51.9	50.2	47.9
85°	32.5	30.8	29.1	27.6
87.5°	14.6	13.7	12.2	11.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)