

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: P709154

Luminaire Tested: **4APN-24L950-X-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709154
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-24L950-X-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

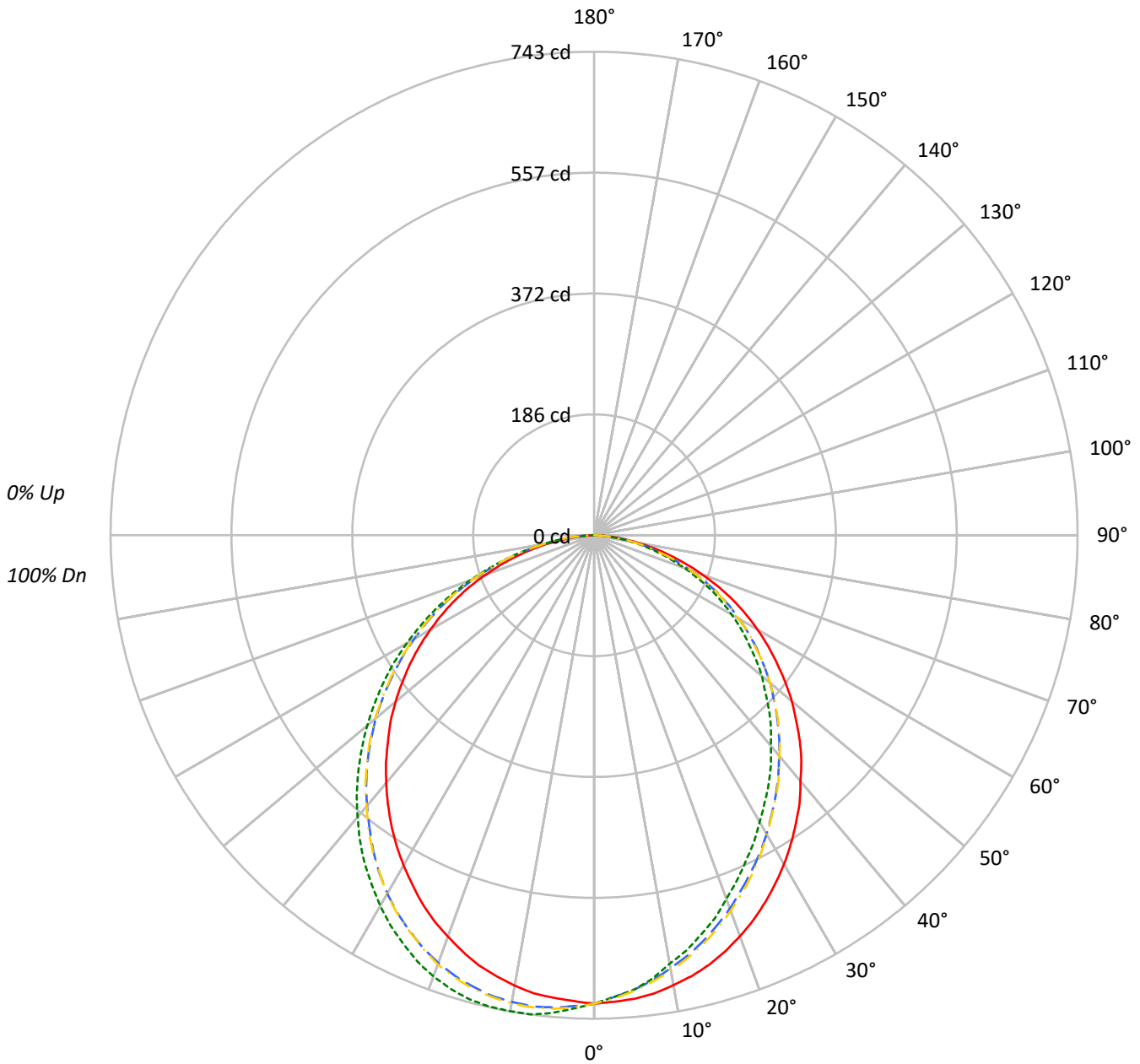
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1930.7 lumens
Efficiency: N/A
Efficacy: 69.2 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): 27.9
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

TEST NUMBER: P709154
CATALOG NUMBER: 4APN-24L950-X-UNV

Luminous Intensity Polar Plot



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



TEST NUMBER: P709154
 CATALOG NUMBER: 4APN-24L950-X-UNV

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	6642	6642	6642	6642
5°	6622	6494	6607	6826
10°	6577	6264	6584	6958
15°	6527	6067	6534	7055
20°	6437	5837	6445	7084
25°	6334	5620	6358	7055
30°	6221	5423	6238	7001
35°	6090	5266	6118	6926
40°	5944	5091	5983	6807
45°	5834	4962	5844	6683
50°	5693	4827	5716	6534
55°	5516	4650	5554	6354
60°	5349	4508	5364	6132
65°	5139	4320	5139	5866
70°	4788	3998	4767	5471
75°	4356	3629	4296	4905
80°	3767	3114	3634	4197
85°	2932	2329	2763	3451



TEST NUMBER: P709154
 CATALOG NUMBER: 4APN-24L950-X-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.0	3.5
10°-20°	193.0	10.0
20°-30°	287.0	14.9
30°-40°	338.3	17.5
40°-50°	344.4	17.8
50°-60°	306.8	15.9
60°-70°	231.2	12.0
70°-80°	128.6	6.7
80°-90°	33.4	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°	548.1	28.4
0°-40°	886.3	45.9
0°-60°	1537.6	79.6
0°-90°	1930.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1930.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	720	720	720	720	720	
5°	715	701	713	737	715	68
15°	683	635	684	739	683	193
25°	622	552	625	693	622	287
35°	541	468	543	615	541	338
45°	447	380	448	512	447	344
55°	343	289	345	395	343	307
65°	235	198	235	269	235	232
75°	122	102	120	138	122	130
85°	28	22	26	33	28	33
90°	0	0	0	0	0	



TEST NUMBER: P709154
 CATALOG NUMBER: 4APN-24L950-X-UNV

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9
2.5°	717.5	717.5	718.3	715.0	710.9	709.3	708.5	707.7	709.3	710.1	709.3
5°	715.0	713.4	711.8	707.7	702.8	699.5	697.9	697.1	698.7	701.2	698.7
7.5°	710.1	706.9	703.6	697.9	692.2	687.3	684.9	683.3	684.9	687.3	685.7
10°	702.0	697.9	693.0	686.5	678.4	672.7	670.2	667.8	668.6	668.6	668.6
12.5°	693.8	688.1	682.4	674.3	665.3	658.8	654.8	651.5	653.1	653.9	653.9
15°	683.3	675.9	667.8	658.8	649.9	642.5	637.7	634.4	635.2	635.2	636.0
17.5°	670.2	662.1	653.9	643.4	632.8	624.6	618.9	614.9	616.5	617.3	618.1
20°	655.6	646.6	637.7	626.3	614.9	605.9	600.2	595.3	594.5	594.5	595.3
22.5°	640.1	630.3	619.7	607.5	595.3	585.5	579.8	574.9	574.1	574.1	574.9
25°	622.2	611.6	601.0	588.8	575.8	566.0	558.7	553.8	553.0	552.1	553.8
27.5°	603.5	592.9	582.3	570.1	556.2	546.4	539.1	534.2	532.6	531.8	533.4
30°	583.9	571.7	560.3	547.3	535.0	525.3	517.9	512.2	510.6	509.0	510.6
32.5°	562.7	550.5	538.3	525.3	513.1	503.3	496.0	490.3	488.6	487.8	489.4
35°	540.7	528.5	517.1	504.1	491.9	482.1	474.8	469.9	468.3	467.5	468.3
37.5°	518.8	506.5	495.1	482.1	469.9	460.1	452.8	447.9	447.1	446.3	447.1
40°	493.5	482.9	471.5	459.3	447.1	437.3	431.6	425.9	424.3	422.7	425.1
42.5°	471.5	460.9	449.5	438.1	425.9	416.1	409.6	404.7	403.1	402.3	403.1
45°	447.1	435.7	424.3	413.7	402.3	393.3	386.8	381.9	381.1	380.3	381.1
47.5°	421.0	411.3	401.5	390.9	379.5	370.5	364.8	360.0	358.3	356.7	358.3
50°	396.6	386.8	377.1	367.3	356.7	348.6	342.9	338.0	337.2	336.3	337.2
52.5°	370.5	360.8	351.8	342.0	333.1	324.9	319.2	315.2	314.3	313.5	314.3
55°	342.9	334.7	326.6	318.4	309.5	302.1	297.2	292.4	290.7	289.1	290.7
57.5°	316.8	309.5	301.3	293.2	285.0	278.5	273.6	269.6	268.7	267.9	268.7
60°	289.9	283.4	276.1	268.7	260.6	254.1	250.0	246.8	245.1	244.3	245.1
62.5°	263.0	256.5	250.8	243.5	236.2	231.3	227.2	224.0	222.3	221.5	222.3
65°	235.4	229.7	224.0	217.4	211.7	206.9	202.8	199.5	198.7	197.9	197.9
67.5°	206.9	202.0	197.1	191.4	184.9	180.0	175.9	173.5	172.6	171.8	172.6
70°	177.5	173.5	168.6	163.7	158.8	154.7	152.3	149.8	149.0	148.2	148.2
72.5°	149.8	146.6	142.5	138.4	134.4	130.3	127.9	126.2	125.4	124.6	124.6
75°	122.2	118.9	116.5	113.2	109.1	106.7	104.2	102.6	101.8	101.8	101.8
77.5°	96.1	93.7	91.2	88.0	85.5	83.1	81.4	80.6	79.8	79.8	79.8
80°	70.9	69.2	67.6	66.0	63.5	61.1	60.3	59.4	58.6	58.6	58.6
82.5°	48.0	47.2	45.6	44.0	42.3	41.5	40.7	39.9	39.9	39.9	39.9
85°	27.7	26.9	26.1	25.2	24.4	24.4	23.6	22.8	22.0	22.0	22.0
87.5°	11.4	11.4	11.4	10.6	9.8	9.8	9.8	9.8	9.8	9.8	9.8
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: P709154

CATALOG NUMBER: 4APN-24L950-X-UNV

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9
2.5°	707.7	709.3	710.9	713.4	715.8	718.3	717.5	716.6	719.9	724.0	724.8
5°	697.1	698.7	701.2	705.2	709.3	712.6	713.4	713.4	719.9	725.6	727.2
7.5°	684.1	686.5	689.8	693.8	699.5	704.4	706.9	710.1	716.6	724.0	727.2
10°	667.8	671.9	676.7	682.4	688.1	693.8	698.7	702.8	710.9	719.1	724.0
12.5°	653.1	657.2	662.1	668.6	675.9	683.3	688.1	693.8	703.6	713.4	719.1
15°	636.8	640.9	646.6	653.1	661.3	669.4	676.7	684.1	693.8	704.4	710.9
17.5°	618.9	623.0	628.7	636.8	645.8	654.8	662.9	671.0	682.4	693.8	701.2
20°	596.9	602.6	610.0	618.1	628.7	639.3	647.4	656.4	668.6	680.8	689.0
22.5°	575.8	581.5	589.6	599.4	610.8	622.2	632.0	641.7	654.8	667.0	675.9
25°	555.4	561.9	570.1	579.8	590.4	601.8	613.2	624.6	637.7	650.7	659.6
27.5°	535.0	540.7	548.9	558.7	570.9	582.3	593.7	605.1	618.9	632.8	642.5
30°	512.2	518.8	526.1	535.9	548.9	561.9	573.3	585.5	599.4	613.2	623.0
32.5°	491.1	496.8	504.1	513.9	526.9	539.9	552.1	565.2	578.2	592.1	601.8
35°	469.9	475.6	482.9	492.7	505.7	518.8	531.0	543.2	556.2	569.2	579.0
37.5°	448.7	454.4	461.8	471.5	483.7	496.8	508.2	520.4	533.4	546.4	555.4
40°	426.7	432.4	438.1	447.9	460.1	473.2	484.6	496.8	509.8	522.8	531.8
42.5°	404.7	410.4	417.8	427.5	438.9	450.3	461.8	473.2	485.4	497.6	506.5
45°	382.8	387.6	395.0	403.9	415.3	425.9	437.3	447.9	460.1	471.5	480.5
47.5°	360.0	364.8	370.5	379.5	390.9	402.3	413.7	424.3	434.9	446.3	454.4
50°	338.0	342.9	349.4	357.5	368.1	378.7	388.5	398.2	408.8	419.4	426.7
52.5°	315.2	320.0	325.7	333.9	342.9	352.6	361.6	371.4	381.1	390.9	398.2
55°	292.4	295.6	300.5	307.8	317.6	327.4	336.3	345.3	354.3	362.4	369.7
57.5°	269.6	273.6	279.3	285.8	294.0	302.1	310.3	318.4	326.6	334.7	341.2
60°	246.8	250.0	254.1	259.8	267.9	275.3	283.4	290.7	298.1	305.4	311.1
62.5°	223.1	226.4	230.5	236.2	242.7	249.2	256.5	263.0	269.6	276.1	281.8
65°	198.7	202.0	206.0	210.9	216.6	222.3	228.8	235.4	240.2	245.1	250.8
67.5°	173.5	176.7	180.8	184.9	189.7	195.4	201.2	206.9	211.7	216.6	220.7
70°	149.0	151.5	155.5	158.8	162.9	166.9	171.8	176.7	180.0	184.0	188.9
72.5°	125.4	127.9	131.1	134.4	136.8	140.1	145.0	149.0	153.1	158.0	160.4
75°	102.6	104.2	106.7	109.1	111.6	114.0	117.3	120.5	123.8	126.2	129.5
77.5°	79.8	81.4	83.9	85.5	87.1	88.8	91.2	93.7	96.1	97.7	101.0
80°	58.6	60.3	61.9	63.5	65.1	66.8	67.6	68.4	71.7	74.1	75.7
82.5°	39.9	40.7	41.5	43.2	44.0	44.8	45.6	45.6	47.2	48.9	51.3
85°	22.8	23.6	24.4	24.4	24.4	24.4	25.2	26.1	26.9	28.5	30.1
87.5°	9.0	9.0	9.8	9.8	9.8	9.8	9.8	9.8	10.6	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



TEST NUMBER: P709154

CATALOG NUMBER: 4APN-24L950-X-UNV

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9	719.9
2.5°	724.0	724.8	726.4	727.2	728.1	728.1	728.9	729.7	728.1	726.4	725.6
5°	728.1	728.9	731.3	733.8	735.4	737.0	736.2	735.4	733.8	731.3	729.7
7.5°	728.9	731.3	733.8	737.0	739.5	742.7	741.1	739.5	736.2	732.9	730.5
10°	726.4	729.7	733.8	737.8	740.3	742.7	741.1	739.5	736.2	732.1	728.9
12.5°	723.2	727.2	732.1	736.2	738.6	741.9	739.5	737.0	732.9	728.9	724.8
15°	715.8	720.7	726.4	731.3	735.4	738.6	736.2	734.6	729.7	724.0	718.3
17.5°	706.9	713.4	719.1	724.8	728.1	731.3	729.7	728.1	722.4	715.8	709.3
20°	696.3	702.8	708.5	714.2	718.3	721.5	719.1	716.6	710.9	705.2	698.7
22.5°	683.3	689.8	696.3	702.0	706.1	709.3	706.1	702.0	696.3	690.6	684.1
25°	667.0	674.3	681.6	687.3	689.8	693.0	689.8	686.5	680.8	675.1	667.8
27.5°	650.7	658.0	665.3	671.0	673.5	676.7	673.5	670.2	664.5	658.8	651.5
30°	632.0	639.3	646.6	652.3	654.8	657.2	653.9	650.7	645.8	640.1	632.8
32.5°	610.8	618.1	623.8	629.5	632.8	636.0	632.8	630.3	624.6	617.3	610.0
35°	588.0	595.3	602.6	608.3	611.6	614.9	610.8	606.7	601.8	596.1	589.6
37.5°	562.7	570.9	579.0	585.5	588.0	591.2	588.0	583.9	579.0	573.3	566.0
40°	539.1	546.4	553.8	560.3	562.7	565.2	561.9	558.7	553.0	547.3	539.9
42.5°	514.7	522.0	528.5	534.2	536.7	539.9	536.7	532.6	528.5	523.6	517.1
45°	488.6	496.0	501.7	507.4	509.8	512.2	509.0	504.9	500.8	496.8	490.3
47.5°	461.8	468.3	474.0	479.7	481.3	483.7	480.5	478.0	474.0	469.9	464.2
50°	434.1	440.6	446.3	451.2	452.8	455.2	452.0	448.7	445.5	442.2	437.3
52.5°	405.6	411.3	417.0	421.8	423.5	425.1	421.8	418.6	415.3	412.1	407.2
55°	376.2	381.9	387.6	391.7	393.3	395.0	391.7	389.3	386.0	383.6	378.7
57.5°	346.9	352.6	357.5	361.6	363.2	364.8	361.6	358.3	355.9	353.4	349.4
60°	316.8	322.5	326.6	329.8	331.5	332.3	329.0	326.6	324.9	323.3	319.2
62.5°	287.5	291.5	295.6	298.1	299.7	300.5	298.1	296.4	294.8	293.2	289.9
65°	256.5	261.4	264.7	267.1	267.9	268.7	266.3	264.7	263.0	261.4	259.0
67.5°	225.6	229.7	232.1	234.5	235.4	235.4	235.4	234.5	232.9	230.5	228.0
70°	194.6	197.9	200.3	202.0	202.8	202.8	201.2	199.5	199.5	198.7	197.1
72.5°	162.9	165.3	166.9	168.6	168.6	168.6	168.6	169.4	168.6	166.9	164.5
75°	132.7	135.2	136.8	137.6	137.6	137.6	137.6	138.4	137.6	136.8	135.2
77.5°	104.2	105.9	106.7	107.5	107.5	107.5	108.3	109.1	108.3	107.5	106.7
80°	77.4	78.2	79.0	79.8	79.0	79.0	79.8	81.4	80.6	79.8	79.0
82.5°	52.9	53.7	54.6	54.6	55.4	56.2	56.2	56.2	56.2	55.4	54.6
85°	31.8	32.6	32.6	32.6	32.6	32.6	33.4	34.2	34.2	33.4	33.4
87.5°	14.7	15.5	14.7	13.8	13.0	13.0	14.7	16.3	16.3	15.5	15.5
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: P709154
 CATALOG NUMBER: 4APN-24L950-X-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	719.9	719.9	719.9	719.9
2.5°	726.4	725.6	721.5	717.5
5°	728.9	726.4	720.7	715.0
7.5°	728.9	725.6	717.5	710.1
10°	724.8	719.9	710.9	702.0
12.5°	719.9	714.2	703.6	693.8
15°	712.6	706.1	694.7	683.3
17.5°	702.0	693.8	682.4	670.2
20°	691.4	682.4	668.6	655.6
22.5°	676.7	668.6	653.9	640.1
25°	660.5	651.5	636.8	622.2
27.5°	643.4	632.8	618.1	603.5
30°	623.8	613.2	598.6	583.9
32.5°	602.6	592.9	578.2	562.7
35°	581.5	570.9	556.2	540.7
37.5°	557.8	548.1	533.4	518.8
40°	532.6	522.8	508.2	493.5
42.5°	509.0	500.0	485.4	471.5
45°	482.9	474.0	460.1	447.1
47.5°	456.0	447.1	434.1	421.0
50°	430.0	421.0	408.8	396.6
52.5°	400.7	393.3	381.9	370.5
55°	372.2	364.8	353.4	342.9
57.5°	343.7	337.2	326.6	316.8
60°	313.5	307.0	298.9	289.9
62.5°	285.0	279.3	271.2	263.0
65°	254.9	250.0	242.7	235.4
67.5°	224.0	219.9	213.4	206.9
70°	193.0	188.1	183.2	177.5
72.5°	162.1	159.6	154.7	149.8
75°	132.7	130.3	126.2	122.2
77.5°	105.1	102.6	99.4	96.1
80°	77.4	75.7	73.3	70.9
82.5°	53.7	52.1	50.5	48.0
85°	32.6	30.9	29.3	27.7
87.5°	14.7	13.8	12.2	11.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)