

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

Report Number: C2103082A001

Luminaire Tested: **LT4069FS461EWHDMR**

Test Date: 2021-01-18



Test Information

Test Method: LM-41-14
Report Number: C2103082A001
Test Lab: EVERFINE
Test Date: 2021-01-18
Issue Date: 2021-02-19 10:08:23
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: LT4069FS461EWHDMR
Description: LT4069FS461EWHDMR
Light Source: -
Ballast/Driver: -

Summary

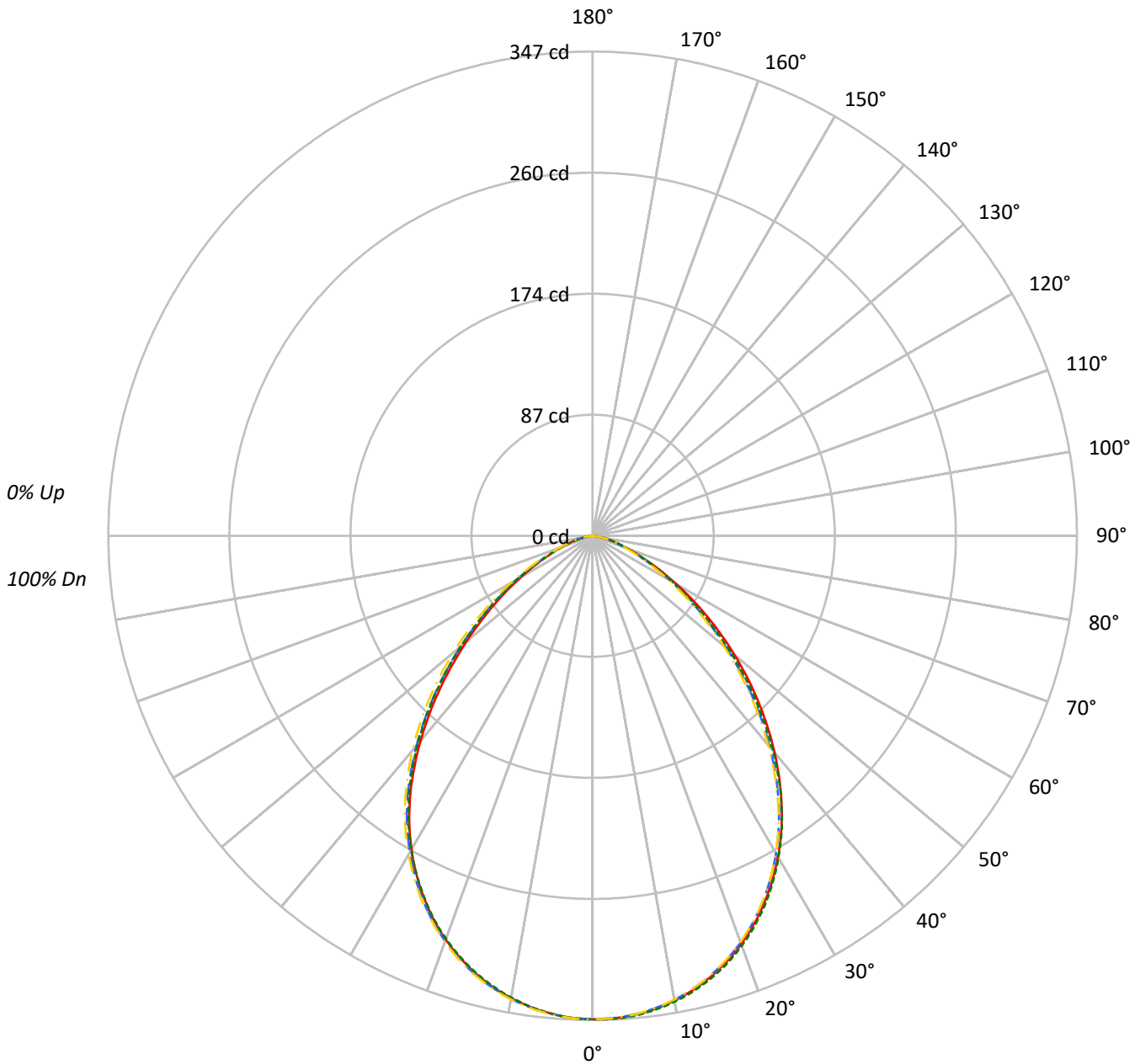
Lumens per Lamp: 668.6 (1 lamp)
Luminaire Lumens: 668.6 lumens
Efficiency: 100.0%
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.14 / 1.2
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 7.38
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: C2103082A001

CATALOG NUMBER: LT4069FS461EWHDMR

Luminous Intensity Polar Plot





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CATALOG NUMBER: LT4069FS461EWHDMR

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	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	70	68																			
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	61	60																			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	50	74	63	56	50	62	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	43615	43615	43615	43615
5°	43545	43623	43420	43411
10°	43225	43331	42992	42946
15°	42622	42777	42290	42207
20°	41692	41872	41239	41149
25°	40367	40558	39739	39681
30°	38600	38711	37716	37775
35°	36290	36277	35023	35264
40°	33322	33028	31505	32034
45°	29870	29262	27454	28287
50°	25979	25085	23104	24104
55°	21798	20761	18916	19887
60°	17493	16578	14871	15718
65°	13273	12749	11309	11774
70°	9755	9721	8635	8696
75°	6969	7387	6199	6350
80°	4511	5224	4120	4331
85°	2662	4112	2258	2781



TEST NUMBER: C2103082A001

CATALOG NUMBER: LT4069FS461EWHDMR

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	32.6	4.9	4.9
10°-20°	91.7	13.7	13.7
20°-30°	132.5	19.8	19.8
30°-40°	144.7	21.6	21.6
40°-50°	124.1	18.6	18.6
50°-60°	83.0	12.4	12.4
60°-70°	41.8	6.2	6.2
70°-80°	15.4	2.3	2.3
80°-90°	2.8	0.4	0.4
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	256.9	38.4	38.4
0°-40°	401.6	60.1	60.1
0°-60°	608.7	91.0	91.0
0°-90°	668.6	100.0	100.0
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	668.6	100.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	347	347	347	347	347	
5°	345	345	344	344	345	33
15°	327	328	325	324	327	92
25°	291	292	286	286	291	134
35°	236	236	228	230	236	147
45°	168	164	154	159	168	129
55°	99	95	86	91	99	89
65°	45	43	38	40	45	45
75°	14	15	13	13	14	16
85°	2	3	2	2	2	2
90°	0	0	0	0	0	



TEST NUMBER: C2103082A001

CATALOG NUMBER: LT4069FS461EWHDMR

CANDELA DISTRIBUTION (FULL):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6
1°	346.6	346.4	346.3	346.7	346.6	346.5	346.3	346.2	346.2	346.5	346.5
2°	346.3	346.1	346.0	346.7	346.2	346.2	346.0	345.9	346.0	346.0	346.2
3°	345.9	345.8	345.7	346.4	345.8	345.6	345.4	345.4	345.4	345.5	345.7
4°	345.4	345.1	345.1	345.9	345.3	345.1	344.7	344.7	344.8	344.7	345.0
5°	344.7	344.4	344.2	345.3	344.5	344.3	343.7	343.9	344.0	343.6	344.2
6°	343.8	343.5	343.3	344.4	343.5	343.2	342.6	342.9	342.9	342.5	343.1
7°	342.7	342.4	342.1	343.4	342.3	342.0	341.3	341.6	341.7	341.2	341.9
8°	341.4	341.1	340.7	342.1	341.0	340.6	339.9	340.2	340.3	339.6	340.5
9°	340.0	339.5	339.2	340.7	339.4	339.1	338.3	338.6	338.8	337.9	339.1
10°	338.2	337.8	337.5	339.1	337.6	337.3	336.4	336.9	337.0	336.1	337.3
11°	336.4	335.9	335.6	337.3	335.8	335.5	334.5	334.9	335.1	334.0	335.3
12°	334.3	333.9	333.5	335.4	333.7	333.4	332.3	332.7	333.0	331.7	333.3
13°	332.1	331.6	331.2	333.2	331.5	331.0	330.0	330.5	330.7	329.3	330.9
14°	329.8	329.1	328.7	330.8	328.9	328.4	327.3	328.0	328.3	326.7	328.5
15°	327.1	326.5	326.1	328.3	326.3	325.7	324.6	325.2	325.6	323.9	325.8
16°	324.4	323.7	323.2	325.7	323.5	323.0	321.6	322.3	322.8	321.0	322.9
17°	321.4	320.6	320.2	322.8	320.4	319.9	318.4	319.2	319.7	317.8	319.9
18°	318.3	317.5	316.9	319.5	317.1	316.7	315.1	316.1	316.5	314.5	316.6
19°	314.9	314.0	313.4	316.2	313.7	313.2	311.7	312.5	313.0	311.0	313.2
20°	311.3	310.4	309.8	312.6	310.1	309.5	307.9	308.8	309.4	307.3	309.6
21°	307.6	306.6	305.9	309.0	306.3	305.7	303.9	305.0	305.5	303.4	305.8
22°	303.6	302.5	301.8	305.0	302.2	301.6	299.8	300.9	301.6	299.3	301.8
23°	299.6	298.3	297.5	300.9	298.0	297.3	295.5	296.6	297.5	295.0	297.6
24°	295.2	293.9	293.1	296.5	293.5	292.9	290.9	292.2	293.0	290.5	293.3
25°	290.7	289.3	288.4	292.1	288.9	288.3	286.2	287.5	288.4	285.8	288.8
26°	286.0	284.5	283.4	287.3	284.1	283.4	281.2	282.6	283.7	280.9	284.0
27°	281.2	279.5	278.4	282.3	279.1	278.3	276.1	277.6	278.7	275.9	279.2
28°	276.1	274.4	273.2	277.2	273.9	273.1	270.7	272.4	273.6	270.7	274.2
29°	270.9	269.0	267.8	271.9	268.6	267.7	265.3	267.0	268.3	265.4	268.9
30°	265.6	263.5	262.2	266.4	263.0	262.0	259.5	261.4	262.8	259.9	263.6
31°	260.2	257.9	256.4	260.8	257.2	256.3	253.7	255.6	257.0	254.2	258.0
32°	254.5	252.1	250.5	255.0	251.3	250.3	247.6	249.6	251.4	248.4	252.3
33°	248.6	246.1	244.3	248.9	245.2	244.2	241.3	243.5	245.3	242.4	246.5
34°	242.5	239.9	238.0	242.7	238.8	237.6	234.7	237.1	239.0	235.9	240.4
35°	236.2	233.3	231.3	236.1	232.0	230.8	228.0	230.3	232.5	229.5	234.1
36°	229.7	226.7	224.4	229.4	225.2	224.1	221.0	223.6	225.8	222.8	227.6
37°	223.2	219.9	217.5	222.5	218.1	216.9	213.8	216.5	218.9	216.1	221.0
38°	216.5	213.1	210.4	215.4	210.9	209.7	206.6	209.5	211.9	209.1	214.3
39°	209.6	206.1	203.2	208.2	203.7	202.5	199.2	202.0	204.8	202.1	207.4
40°	202.8	198.9	196.0	201.0	196.3	195.1	191.8	195.0	197.5	195.0	200.5
41°	195.8	191.8	188.6	193.8	188.9	187.8	184.3	187.7	190.3	187.9	193.5
42°	189.0	184.6	181.3	186.3	181.4	180.3	176.8	180.3	183.0	180.7	186.4



TEST NUMBER: C2103082A001

CATALOG NUMBER: LT4069FS461EWHDMR

CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	167.8	162.9	159.1	164.4	159.2	157.8	154.3	158.0	160.9	158.9	165.4
46°	160.7	155.6	151.7	157.0	151.7	150.3	146.8	150.6	153.5	151.7	158.2
47°	153.7	148.4	144.4	149.7	144.4	142.9	139.4	143.2	146.1	144.4	151.0
48°	146.6	141.2	137.1	142.4	137.2	135.7	132.1	136.0	138.9	137.3	144.0
49°	139.6	134.2	130.0	135.2	130.0	128.5	125.0	128.8	131.8	130.2	136.9
50°	132.7	127.2	123.0	128.1	123.0	121.5	118.0	121.7	124.7	123.1	129.9
51°	125.8	120.2	116.0	121.2	116.1	114.6	111.2	114.8	117.7	116.3	122.9
52°	119.0	113.4	109.3	114.4	109.3	107.9	104.5	108.1	110.9	109.5	116.2
53°	112.4	106.7	102.8	107.5	102.7	101.3	97.9	101.4	104.2	103.0	109.6
54°	105.7	100.3	96.5	101.1	96.3	94.9	92.1	95.0	97.7	96.5	102.9
55°	99.3	93.8	90.3	94.6	90.5	88.8	86.2	88.8	91.8	90.6	96.5
56°	93.1	88.2	84.4	88.5	84.6	82.9	80.4	82.8	85.9	84.8	90.3
57°	86.9	82.5	78.7	82.5	78.9	77.0	74.7	77.0	79.9	79.0	84.3
58°	80.9	76.7	73.2	76.8	73.4	71.5	69.3	71.4	74.3	73.2	78.3
59°	75.1	71.1	67.9	71.2	67.9	66.2	64.1	66.1	68.8	67.7	72.6
60°	69.5	65.8	62.8	65.9	62.7	61.1	59.1	60.9	63.4	62.4	67.1
61°	64.0	60.7	58.0	60.7	57.8	56.3	54.4	56.1	58.4	57.4	61.8
62°	58.8	55.8	53.3	55.9	53.0	51.6	49.9	51.4	53.6	52.5	56.6
63°	53.9	51.0	48.9	51.3	48.6	47.3	45.6	47.0	49.0	47.9	51.8
64°	49.0	46.6	44.8	46.9	44.4	43.2	41.7	42.9	44.7	43.6	47.1
65°	44.6	42.4	40.9	42.8	40.4	39.4	38.0	39.1	40.6	39.5	42.7
66°	40.3	38.5	37.2	39.0	36.7	35.9	34.6	35.5	36.9	35.8	38.7
67°	36.3	34.9	33.8	35.4	33.4	32.6	31.4	32.2	33.4	32.3	34.8
68°	32.8	31.6	30.6	32.2	30.3	29.6	28.6	29.3	30.3	29.1	31.4
69°	29.5	28.5	27.7	29.2	27.4	26.8	25.9	26.5	27.3	26.2	28.2
70°	26.5	25.7	25.1	26.4	24.8	24.3	23.5	24.1	24.7	23.6	25.3
71°	23.7	23.2	22.6	23.9	22.5	22.0	21.1	21.8	22.3	21.1	22.7
72°	21.1	20.8	20.4	21.6	20.3	19.8	18.8	19.6	20.1	18.9	20.3
73°	18.6	18.6	18.3	19.3	18.2	17.7	16.7	17.5	18.1	16.7	18.1
74°	16.4	16.5	16.2	17.1	16.3	15.7	14.7	15.5	16.0	14.8	16.1
75°	14.3	14.5	14.3	15.2	14.5	13.8	12.7	13.6	14.1	13.1	14.3
76°	12.3	12.7	12.5	13.4	12.8	12.0	10.9	11.8	12.4	11.4	12.6
77°	10.3	10.9	10.9	11.7	11.2	10.4	9.1	10.1	10.9	9.7	10.9
78°	8.4	9.3	9.4	10.0	9.6	8.9	7.6	8.6	9.3	8.2	9.4
79°	7.3	7.8	7.9	8.5	8.2	7.5	6.6	7.2	7.8	6.9	7.8
80°	6.2	6.5	6.7	7.2	7.0	6.4	5.7	6.2	6.6	6.0	6.7
81°	5.2	5.6	5.7	6.2	6.1	5.5	4.8	5.2	5.7	5.1	5.8
82°	4.3	4.6	4.8	5.3	5.2	4.6	3.9	4.3	4.8	4.2	4.9
83°	3.4	3.7	3.9	4.5	4.4	3.7	3.1	3.5	3.9	3.4	4.0
84°	2.6	2.9	3.1	3.6	3.6	2.9	2.3	2.7	3.1	2.6	3.3
85°	1.8	2.1	2.3	2.8	2.8	2.2	1.6	2.0	2.3	1.9	2.5
86°	1.1	1.4	1.7	2.1	2.1	1.5	0.9	1.3	1.7	1.3	1.8
87°	0.5	0.9	1.1	1.5	1.5	1.0	0.4	0.8	1.1	0.8	1.2



TEST NUMBER: C2103082A001

CATALOG NUMBER: LT4069FS461EWHDMR

CANDELA DISTRIBUTION (continued):

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
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: C2103082A001

CATALOG NUMBER: LT4069FS461EWHDMR

CANDELA DISTRIBUTION (continued):

	330°	360°
0°	346.6	346.6
1°	346.5	346.6
2°	346.2	346.3
3°	345.7	345.9
4°	345.2	345.4
5°	344.3	344.7
6°	343.4	343.8
7°	342.3	342.7
8°	340.8	341.4
9°	339.2	340.0
10°	337.5	338.2
11°	335.6	336.4
12°	333.5	334.3
13°	331.2	332.1
14°	328.7	329.8
15°	326.1	327.1
16°	323.3	324.4
17°	320.2	321.4
18°	317.0	318.3
19°	313.5	314.9
20°	310.0	311.3
21°	306.1	307.6
22°	302.1	303.6
23°	298.0	299.6
24°	293.6	295.2
25°	289.1	290.7
26°	284.4	286.0
27°	279.5	281.2
28°	274.5	276.1
29°	269.3	270.9
30°	263.9	265.6
31°	258.5	260.2
32°	252.9	254.5
33°	247.0	248.6
34°	240.8	242.5
35°	234.5	236.2
36°	228.0	229.7
37°	221.5	223.2
38°	214.7	216.5
39°	208.0	209.6
40°	201.0	202.8
41°	194.1	195.8
42°	187.0	189.0



TEST NUMBER: C2103082A001

CATALOG NUMBER: LT4069FS461EWHDMR

CANDELA DISTRIBUTION (continued):

	330°	360°
45°	165.7	167.8
46°	158.6	160.7
47°	151.5	153.7
48°	144.4	146.6
49°	137.4	139.6
50°	130.5	132.7
51°	123.5	125.8
52°	116.8	119.0
53°	110.2	112.4
54°	103.6	105.7
55°	97.2	99.3
56°	91.3	93.1
57°	85.4	86.9
58°	79.5	80.9
59°	73.8	75.1
60°	68.3	69.5
61°	62.9	64.0
62°	57.7	58.8
63°	52.8	53.9
64°	48.1	49.0
65°	43.6	44.6
66°	39.5	40.3
67°	35.6	36.3
68°	32.0	32.8
69°	28.8	29.5
70°	25.8	26.5
71°	23.1	23.7
72°	20.7	21.1
73°	18.4	18.6
74°	16.2	16.4
75°	14.3	14.3
76°	12.4	12.3
77°	10.7	10.3
78°	9.1	8.4
79°	7.6	7.3
80°	6.4	6.2
81°	5.5	5.2
82°	4.5	4.3
83°	3.7	3.4
84°	2.8	2.6
85°	2.1	1.8
86°	1.4	1.1
87°	0.9	0.5



TEST NUMBER: C2103082A001

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CANDELA DISTRIBUTION (continued):

	330°	360°
90°	0.0	0.0



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







43°	181.9	177.4	173.9	178.9	174.1	172.8	169.3	172.9	175.6	173.4	179.4
44°	174.9	170.1	166.6	171.5	166.6	165.3	161.8	165.5	168.3	166.1	172.4



88°	0.3	0.5	0.6	0.9	0.9	0.5	0.2	0.4	0.6	0.3	0.6
89°	0.1	0.2	0.1	0.4	0.3	0.2	0.0	0.1	0.2	0.0	0.0





43°	180.0	181.9
44°	172.9	174.9



88°	0.5	0.3
89°	0.1	0.1



(END OF REPORT)