

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: C2103279A001

Luminaire Tested: **LT6089FS461EWHDMR**

Test Date: 2021-01-20



**Test Information**

Test Method: LM-41-14  
Report Number: C2103279A001  
Test Lab: EVERFINE  
Test Date: 2021-01-20  
Issue Date: 2021-02-19 09:53:23  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: LT6089FS461EWHDMR  
Description: LT6089FS461EWHDMR  
Light Source: -  
Ballast/Driver: -

**Summary**

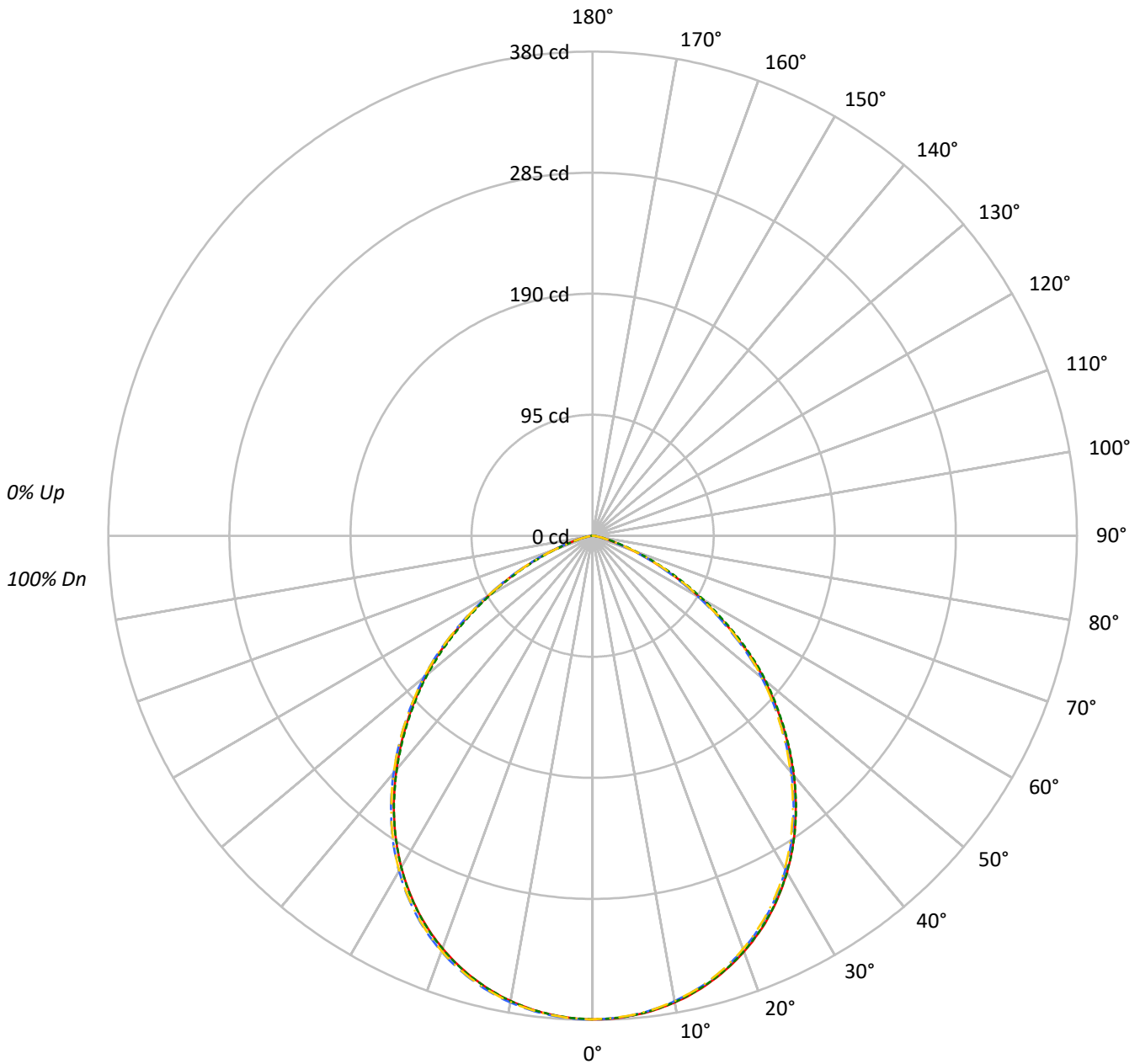
Lumens per Lamp: 819.4 (1 lamp)  
Luminaire Lumens: 819.4 lumens  
Efficiency: 100.0%  
Efficacy: 97.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.27  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.37  
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

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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	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66																			
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58																			
5	81	69	61	55	79	68	60	54	66	59	54	64	58	53	62	57	53	51																			
6	75	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45																			
7	69	57	49	43	68	56	49	43	55	48	43	53	47	42	52	46	42	40																			
8	65	52	44	39	63	52	44	39	50	43	39	49	43	38	48	42	38	36																			
9	61	48	40	35	59	48	40	35	46	40	35	45	39	35	44	39	35	33																			
10	57	45	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

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

	0°	90°	180°	270°
0°	20809	20809	20809	20809
5°	20783	20776	20758	20751
10°	20702	20684	20635	20636
15°	20528	20515	20420	20430
20°	20262	20246	20101	20114
25°	19873	19862	19642	19658
30°	19313	19310	19014	19018
35°	18551	18555	18172	18162
40°	17566	17601	17131	17089
45°	16372	16440	15918	15839
50°	15014	15142	14559	14410
55°	13082	13306	12679	12436
60°	10688	11034	10389	10165
65°	8060	8509	7882	7628
70°	5236	5740	5126	4862
75°	2877	3210	2832	2576
80°	1408	1655	1344	1222
85°	834	1097	821	814



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	35.8	4.4	4.4
10°-20°	101.7	12.4	12.4
20°-30°	150.3	18.3	18.3
30°-40°	171.2	20.9	20.9
40°-50°	160.3	19.6	19.6
50°-60°	120.2	14.7	14.7
60°-70°	61.9	7.6	7.6
70°-80°	16.1	2.0	2.0
80°-90°	1.8	0.2	0.2
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°	287.8	35.1	35.1
0°-40°	459.0	56.0	56.0
0°-60°	739.6	90.3	90.3
0°-90°	819.4	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°	819.4	100.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	380	380	380	380	380	
5°	378	378	377	377	378	36
15°	362	361	360	360	362	102
25°	329	328	325	325	329	151
35°	277	277	272	271	277	173
45°	211	212	205	204	211	163
55°	137	139	133	130	137	122
65°	62	66	61	59	62	62
75°	14	15	13	12	14	16
85°	1	2	1	1	1	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
0°	379.6	379.6	379.6	379.6	379.6	379.6	379.6	379.6	379.6	379.6	379.6
1°	379.5	379.3	379.4	379.3	379.2	379.4	379.4	379.4	379.7	379.3	379.3
2°	379.3	379.2	379.2	379.1	379.0	379.1	379.0	379.3	379.5	379.0	379.1
3°	379.0	378.7	378.6	378.8	378.5	378.6	378.6	378.9	379.1	378.6	378.7
4°	378.4	378.1	378.0	378.3	377.8	378.0	377.9	378.3	378.7	377.9	378.1
5°	377.7	377.4	377.2	377.5	377.1	377.2	377.2	377.7	378.0	377.1	377.5
6°	376.9	376.3	376.2	376.7	376.1	376.3	376.2	376.7	377.1	376.2	376.6
7°	375.9	375.3	375.0	375.7	375.0	375.2	375.1	375.7	376.2	375.1	375.5
8°	374.7	374.0	373.7	374.5	373.8	373.9	373.8	374.5	374.9	373.8	374.4
9°	373.3	372.6	372.4	373.1	372.2	372.4	372.3	373.1	373.7	372.4	373.0
10°	371.9	371.1	370.6	371.6	370.7	370.8	370.7	371.5	372.3	370.7	371.5
11°	370.2	369.3	368.8	369.8	368.8	369.1	368.9	369.9	370.6	369.0	369.8
12°	368.4	367.4	366.9	368.1	366.9	367.1	366.9	368.0	368.7	366.9	368.0
13°	366.3	365.4	364.8	366.0	364.8	365.0	364.8	365.9	366.8	364.8	365.9
14°	364.1	363.1	362.5	363.8	362.5	362.6	362.4	363.7	364.6	362.5	363.8
15°	361.7	360.7	360.0	361.5	360.0	360.1	359.8	361.3	362.2	360.0	361.3
16°	359.2	358.1	357.4	358.9	357.5	357.5	357.2	358.7	359.7	357.4	358.6
17°	356.5	355.3	354.6	356.2	354.5	354.7	354.3	355.9	357.0	354.4	356.0
18°	353.7	352.4	351.5	353.4	351.6	351.6	351.2	353.0	354.1	351.5	353.1
19°	350.6	349.2	348.5	350.3	348.4	348.4	348.0	349.9	351.0	348.3	350.0
20°	347.3	345.9	345.1	347.0	345.0	344.9	344.6	346.5	347.7	344.8	346.7
21°	344.0	342.5	341.6	343.6	341.6	341.5	340.9	343.0	344.3	341.2	343.3
22°	340.3	338.8	337.9	340.1	337.8	337.8	337.2	339.4	340.6	337.5	339.5
23°	336.6	335.0	334.1	336.3	333.9	333.8	333.2	335.6	336.8	333.4	335.7
24°	332.7	331.0	329.9	332.4	329.8	329.8	329.0	331.4	332.7	329.3	331.6
25°	328.6	326.8	325.8	328.4	325.7	325.6	324.7	327.2	328.5	325.0	327.5
26°	324.3	322.4	321.4	324.0	321.2	321.1	320.2	322.7	324.2	320.4	323.0
27°	319.7	317.9	316.7	319.5	316.6	316.4	315.5	318.1	319.5	315.7	318.4
28°	314.9	313.2	312.0	314.8	311.9	311.6	310.6	313.4	314.8	310.8	313.6
29°	310.1	308.3	307.0	310.0	306.9	306.6	305.5	308.3	309.8	305.7	308.6
30°	305.1	303.3	301.9	305.1	301.6	301.4	300.4	303.1	304.7	300.4	303.4
31°	299.8	298.0	296.6	299.8	296.3	296.1	294.9	297.6	299.3	294.9	298.1
32°	294.5	292.5	291.0	294.5	290.9	290.6	289.3	292.1	293.8	289.2	292.5
33°	288.8	286.9	285.5	288.9	285.2	284.9	283.5	286.4	288.1	283.5	286.8
34°	283.1	281.1	279.6	283.2	279.4	279.0	277.6	280.5	282.1	277.5	281.0
35°	277.2	275.1	273.7	277.3	273.4	273.0	271.5	274.4	276.2	271.4	274.8
36°	271.0	269.0	267.6	271.3	267.4	267.1	265.4	268.3	270.0	265.2	268.6
37°	265.0	262.8	261.4	265.2	261.2	260.8	259.1	261.9	263.6	258.7	262.4
38°	258.5	256.4	255.0	258.9	254.8	254.3	252.6	255.4	257.1	252.2	255.9
39°	252.1	249.8	248.5	252.4	248.3	247.9	246.2	248.7	250.6	245.6	249.3
40°	245.5	243.2	241.8	246.0	241.7	241.4	239.4	242.0	243.8	238.8	242.6
41°	238.7	236.5	235.1	239.3	235.1	234.7	232.8	235.2	237.1	232.0	235.8
42°	232.0	229.6	228.2	232.5	228.4	228.0	226.0	228.2	230.2	225.1	228.9



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**CANDELA DISTRIBUTION (continued):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	211.2	208.9	207.5	212.1	208.0	207.6	205.3	207.2	209.3	204.3	208.0
46°	204.1	201.8	200.6	205.1	201.0	200.8	198.5	200.1	202.1	197.2	201.0
47°	197.2	194.9	193.8	198.3	194.1	194.0	191.4	193.1	195.0	190.3	194.1
48°	190.1	187.7	186.8	191.4	187.1	187.2	184.6	186.1	188.0	183.2	187.0
49°	183.1	180.6	179.8	184.5	180.2	180.3	177.7	179.1	180.9	176.2	180.0
50°	176.0	173.5	172.8	177.5	173.1	173.5	170.7	172.0	173.7	169.0	172.9
51°	168.7	166.2	165.5	170.3	166.2	166.6	163.6	164.9	166.6	161.5	165.7
52°	161.0	158.6	157.9	162.9	158.8	159.4	156.0	157.4	159.1	153.8	158.1
53°	153.1	150.7	149.9	155.1	151.2	151.8	148.3	149.5	151.3	146.0	150.4
54°	145.0	142.5	141.9	147.2	143.3	144.0	140.4	141.7	143.4	138.0	142.5
55°	136.9	134.4	133.8	139.2	135.4	136.2	132.7	133.8	135.5	130.1	134.5
56°	128.9	126.5	125.9	131.3	127.6	128.4	124.8	125.9	127.6	122.5	126.6
57°	120.9	118.5	118.1	123.5	119.8	120.6	117.1	118.2	119.8	114.7	118.8
58°	112.9	110.6	110.3	115.7	112.2	113.0	109.5	110.5	112.1	107.1	111.1
59°	105.2	102.9	102.8	108.1	104.7	105.4	101.8	103.1	104.5	99.7	103.5
60°	97.5	95.8	95.3	100.6	97.3	98.0	94.8	95.6	97.1	92.7	96.1
61°	90.0	88.7	88.1	93.3	90.4	90.8	87.8	88.4	90.2	85.8	88.8
62°	82.8	81.5	80.9	86.0	83.6	83.6	80.8	81.3	83.3	78.8	81.6
63°	75.8	74.6	74.1	79.1	76.7	76.8	73.9	74.6	76.3	71.9	74.6
64°	68.9	67.8	67.3	72.3	70.0	69.9	67.2	67.9	69.6	65.3	67.9
65°	62.1	61.1	60.8	65.6	63.4	63.4	60.8	61.4	63.0	58.8	61.3
66°	55.7	54.8	54.5	59.1	57.0	57.0	54.5	55.2	56.6	52.6	54.9
67°	49.5	48.6	48.3	52.9	50.9	50.8	48.4	49.2	50.5	46.5	48.8
68°	43.5	42.7	42.6	47.0	45.1	44.9	42.6	43.5	44.6	40.8	43.0
69°	37.9	37.3	37.1	41.2	39.5	39.2	37.1	37.9	39.0	35.4	37.4
70°	32.7	32.1	31.9	35.8	34.2	33.9	32.0	32.9	33.8	30.3	32.2
71°	27.8	27.3	27.1	30.7	29.3	28.9	27.2	28.1	28.8	25.7	27.4
72°	23.4	23.0	22.9	26.1	24.8	24.4	23.0	23.8	24.4	21.5	23.1
73°	19.6	19.2	19.1	21.9	20.8	20.5	19.3	20.0	20.5	17.9	19.2
74°	16.3	16.0	15.8	18.3	17.3	17.0	16.1	16.6	17.0	14.8	15.8
75°	13.6	13.2	13.1	15.2	14.3	14.1	13.4	13.8	14.1	12.2	13.1
76°	11.2	10.9	10.7	12.5	11.8	11.6	11.1	11.4	11.6	10.0	10.7
77°	9.2	9.0	8.8	10.3	9.6	9.6	9.1	9.4	9.6	8.1	8.7
78°	7.5	7.3	7.1	8.3	7.8	7.8	7.4	7.6	7.8	6.5	7.1
79°	5.9	5.8	5.7	6.7	6.3	6.2	5.8	6.1	6.2	5.1	5.6
80°	4.5	4.5	4.4	5.2	4.9	4.8	4.3	4.7	4.9	3.9	4.3
81°	3.3	3.4	3.3	4.0	3.7	3.6	3.3	3.5	3.6	3.1	3.3
82°	2.8	2.8	2.8	3.2	3.0	2.9	2.7	2.9	3.0	2.6	2.7
83°	2.3	2.3	2.3	2.7	2.5	2.4	2.2	2.4	2.5	2.1	2.3
84°	1.8	1.8	1.8	2.2	2.0	1.9	1.7	1.9	2.0	1.7	1.8
85°	1.3	1.3	1.4	1.7	1.6	1.5	1.3	1.4	1.6	1.3	1.4
86°	0.9	0.9	1.0	1.3	1.2	1.0	0.9	1.0	1.2	0.9	1.0
87°	0.6	0.6	0.6	0.9	0.8	0.6	0.5	0.6	0.8	0.6	0.6



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**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





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**CANDELA DISTRIBUTION (continued):**

	330°	360°
0°	379.6	379.6
1°	379.4	379.5
2°	379.2	379.3
3°	378.8	379.0
4°	378.2	378.4
5°	377.6	377.7
6°	376.7	376.9
7°	375.6	375.9
8°	374.4	374.7
9°	373.1	373.3
10°	371.5	371.9
11°	369.9	370.2
12°	367.9	368.4
13°	365.9	366.3
14°	363.6	364.1
15°	361.3	361.7
16°	358.8	359.2
17°	356.0	356.5
18°	353.1	353.7
19°	350.0	350.6
20°	346.7	347.3
21°	343.2	344.0
22°	339.6	340.3
23°	335.8	336.6
24°	331.8	332.7
25°	327.5	328.6
26°	323.1	324.3
27°	318.5	319.7
28°	313.7	314.9
29°	308.8	310.1
30°	303.7	305.1
31°	298.4	299.8
32°	292.9	294.5
33°	287.2	288.8
34°	281.4	283.1
35°	275.3	277.2
36°	269.2	271.0
37°	262.8	265.0
38°	256.3	258.5
39°	249.7	252.1
40°	243.1	245.5
41°	236.4	238.7
42°	229.5	232.0



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**CANDELA DISTRIBUTION (continued):**

	330°	360°
45°	208.3	211.2
46°	201.3	204.1
47°	194.2	197.2
48°	187.1	190.1
49°	179.9	183.1
50°	172.8	176.0
51°	165.4	168.7
52°	157.9	161.0
53°	150.0	153.1
54°	141.9	145.0
55°	133.9	136.9
56°	126.0	128.9
57°	118.0	120.9
58°	110.2	112.9
59°	102.5	105.2
60°	95.4	97.5
61°	88.3	90.0
62°	81.2	82.8
63°	74.2	75.8
64°	67.5	68.9
65°	60.8	62.1
66°	54.5	55.7
67°	48.4	49.5
68°	42.5	43.5
69°	37.0	37.9
70°	31.9	32.7
71°	27.1	27.8
72°	22.8	23.4
73°	19.0	19.6
74°	15.8	16.3
75°	13.1	13.6
76°	10.8	11.2
77°	8.8	9.2
78°	7.1	7.5
79°	5.7	5.9
80°	4.4	4.5
81°	3.3	3.3
82°	2.7	2.8
83°	2.2	2.3
84°	1.7	1.8
85°	1.3	1.3
86°	0.9	0.9
87°	0.6	0.6



TEST NUMBER: C2103279A001

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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°	225.1	222.8	221.4	225.8	221.5	221.2	219.2	221.3	223.1	218.2	222.0
44°	218.2	215.8	214.6	218.9	214.7	214.5	212.3	214.3	216.2	211.3	215.0



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





43°	222.5	225.1
44°	215.5	218.2



88°	0.2	0.2
89°	0.0	0.0



(END OF REPORT)