

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: **LT4069FS351EWHDMR**

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: LT4069FS351EWHDMR  
Description: LT4069FS351EWHDMR  
Light Source: -  
Ballast/Driver: -

**Summary**

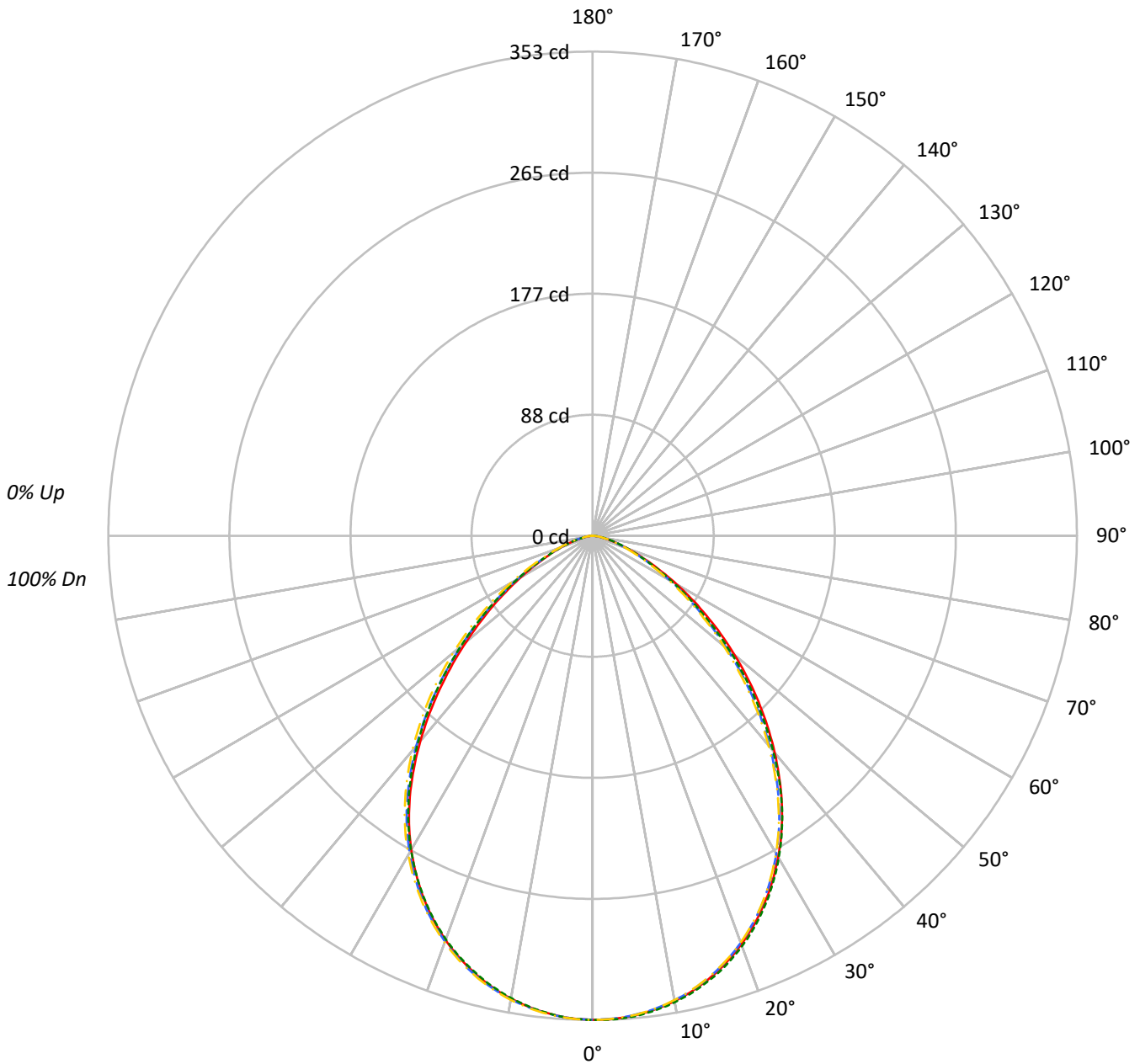
Lumens per Lamp: 680.9 (1 lamp)  
Luminaire Lumens: 680.9 lumens  
Efficiency: 100.0%  
Efficacy: 89.9 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.14 / 1.2  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 7.57  
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	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°	44417	44417	44417	44417
5°	44346	44426	44219	44210
10°	44020	44128	43783	43736
15°	43406	43564	43068	42983
20°	42458	42642	41998	41906
25°	41110	41304	40470	40411
30°	39310	39423	38410	38470
35°	36957	36945	35668	35912
40°	33935	33636	32085	32624
45°	30419	29800	27959	28807
50°	26457	25547	23529	24547
55°	22199	21143	19264	20252
60°	17815	16883	15144	16007
65°	13517	12983	11517	11991
70°	9935	9900	8794	8856
75°	7097	7523	6313	6467
80°	4594	5320	4196	4410
85°	2711	4188	2300	2833



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	33.2	4.9	4.9
10°-20°	93.4	13.7	13.7
20°-30°	135.0	19.8	19.8
30°-40°	147.3	21.6	21.6
40°-50°	126.4	18.6	18.6
50°-60°	84.6	12.4	12.4
60°-70°	42.5	6.2	6.2
70°-80°	15.6	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°	261.7	38.4	38.4
0°-40°	409.0	60.1	60.1
0°-60°	619.9	91.0	91.0
0°-90°	680.9	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°	680.9	100.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	353	353	353	353	353	
5°	351	352	350	350	351	33
15°	333	334	331	330	333	94
25°	296	297	291	291	296	136
35°	241	240	232	234	241	150
45°	171	167	157	162	171	132
55°	101	96	88	92	101	91
65°	45	44	39	40	45	46
75°	15	15	13	13	15	16
85°	2	3	2	2	2	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°	352.9	352.9	352.9	352.9	352.9	352.9	352.9	352.9	352.9	352.9	352.9
1°	352.9	352.7	352.7	353.1	352.9	352.9	352.7	352.6	352.6	352.9	352.9
2°	352.7	352.5	352.4	353.1	352.6	352.6	352.3	352.3	352.3	352.3	352.5
3°	352.3	352.1	352.0	352.8	352.2	352.0	351.8	351.8	351.8	351.8	352.1
4°	351.8	351.5	351.4	352.3	351.6	351.4	351.0	351.1	351.2	351.0	351.3
5°	351.0	350.7	350.5	351.7	350.8	350.6	350.0	350.2	350.3	350.0	350.6
6°	350.1	349.8	349.6	350.7	349.8	349.5	348.9	349.2	349.2	348.8	349.4
7°	349.0	348.7	348.4	349.7	348.6	348.3	347.6	347.9	348.0	347.4	348.2
8°	347.7	347.3	347.0	348.4	347.3	346.9	346.2	346.4	346.6	345.8	346.8
9°	346.2	345.8	345.4	346.9	345.6	345.4	344.5	344.8	345.1	344.1	345.3
10°	344.5	344.0	343.7	345.3	343.8	343.5	342.6	343.1	343.2	342.2	343.5
11°	342.5	342.1	341.8	343.5	341.9	341.6	340.7	341.1	341.3	340.2	341.5
12°	340.5	340.0	339.7	341.5	339.8	339.6	338.4	338.9	339.1	337.8	339.4
13°	338.2	337.7	337.3	339.3	337.6	337.1	336.0	336.6	336.8	335.4	337.0
14°	335.9	335.2	334.7	336.9	335.0	334.5	333.4	334.0	334.3	332.8	334.5
15°	333.2	332.5	332.1	334.4	332.3	331.7	330.6	331.2	331.6	329.9	331.8
16°	330.3	329.6	329.1	331.7	329.4	328.9	327.5	328.3	328.7	326.9	328.8
17°	327.3	326.5	326.1	328.7	326.3	325.7	324.3	325.1	325.6	323.7	325.8
18°	324.1	323.3	322.8	325.4	323.0	322.5	320.9	321.9	322.3	320.3	322.5
19°	320.7	319.8	319.2	322.0	319.5	319.0	317.4	318.3	318.8	316.7	318.9
20°	317.0	316.1	315.5	318.4	315.8	315.2	313.6	314.5	315.1	312.9	315.3
21°	313.3	312.3	311.5	314.7	311.9	311.3	309.5	310.6	311.2	309.0	311.4
22°	309.2	308.1	307.3	310.6	307.8	307.1	305.3	306.4	307.2	304.8	307.4
23°	305.1	303.8	303.0	306.4	303.5	302.8	301.0	302.0	302.9	300.4	303.1
24°	300.6	299.3	298.4	302.0	298.9	298.3	296.2	297.5	298.4	295.8	298.7
25°	296.1	294.7	293.7	297.5	294.3	293.6	291.4	292.8	293.7	291.0	294.1
26°	291.3	289.7	288.6	292.6	289.3	288.6	286.4	287.8	288.9	286.1	289.2
27°	286.4	284.6	283.6	287.5	284.2	283.5	281.2	282.7	283.9	281.0	284.3
28°	281.2	279.4	278.2	282.3	278.9	278.1	275.7	277.4	278.6	275.7	279.2
29°	275.9	274.0	272.7	276.9	273.5	272.6	270.1	271.9	273.2	270.2	273.9
30°	270.5	268.3	267.0	271.3	267.8	266.9	264.3	266.2	267.6	264.7	268.4
31°	264.9	262.6	261.1	265.6	261.9	261.0	258.3	260.3	261.8	258.9	262.8
32°	259.2	256.7	255.1	259.7	256.0	254.9	252.2	254.2	256.0	253.0	256.9
33°	253.2	250.6	248.8	253.5	249.7	248.6	245.8	248.0	249.9	246.9	251.1
34°	247.0	244.3	242.4	247.1	243.1	242.0	239.0	241.4	243.4	240.3	244.8
35°	240.6	237.6	235.5	240.5	236.3	235.1	232.2	234.6	236.8	233.8	238.4
36°	234.0	230.9	228.6	233.6	229.3	228.2	225.1	227.7	229.9	226.9	231.7
37°	227.3	224.0	221.6	226.6	222.1	220.9	217.8	220.5	222.9	220.0	225.1
38°	220.5	217.0	214.3	219.4	214.8	213.5	210.4	213.3	215.7	212.9	218.2
39°	213.5	209.9	207.0	212.0	207.4	206.2	202.9	205.8	208.5	205.8	211.2
40°	206.6	202.6	199.6	204.7	199.9	198.6	195.3	198.6	201.1	198.6	204.2
41°	199.4	195.3	192.1	197.3	192.4	191.2	187.7	191.2	193.8	191.4	197.0
42°	192.4	188.0	184.6	189.8	184.8	183.6	180.1	183.6	186.4	184.0	189.9



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**CANDELA DISTRIBUTION (continued):**

	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°
45°	170.9	165.9	162.0	167.4	162.1	160.7	157.1	160.9	163.9	161.9	168.4
46°	163.7	158.5	154.5	159.9	154.5	153.1	149.5	153.4	156.3	154.4	161.1
47°	156.5	151.1	147.1	152.5	147.0	145.6	141.9	145.9	148.8	147.1	153.8
48°	149.3	143.8	139.6	145.0	139.7	138.2	134.6	138.5	141.5	139.8	146.6
49°	142.1	136.6	132.4	137.7	132.4	130.8	127.3	131.1	134.2	132.5	139.4
50°	135.1	129.6	125.2	130.5	125.3	123.7	120.2	124.0	127.0	125.4	132.3
51°	128.1	122.5	118.1	123.4	118.3	116.7	113.2	116.9	119.9	118.5	125.2
52°	121.2	115.5	111.3	116.5	111.3	109.8	106.4	110.1	112.9	111.5	118.3
53°	114.5	108.7	104.7	109.5	104.6	103.1	99.7	103.3	106.1	104.9	111.6
54°	107.7	102.2	98.3	102.9	98.1	96.7	93.8	96.8	99.5	98.3	104.8
55°	101.2	95.6	92.0	96.4	92.1	90.4	87.8	90.4	93.5	92.3	98.3
56°	94.8	89.8	85.9	90.1	86.2	84.4	81.8	84.3	87.4	86.3	92.0
57°	88.5	84.0	80.2	84.0	80.4	78.5	76.0	78.4	81.4	80.4	85.8
58°	82.4	78.1	74.5	78.2	74.7	72.8	70.6	72.7	75.7	74.6	79.7
59°	76.5	72.5	69.1	72.5	69.2	67.4	65.2	67.3	70.0	69.0	73.9
60°	70.8	67.0	64.0	67.1	63.8	62.2	60.2	62.1	64.6	63.6	68.3
61°	65.2	61.8	59.0	61.8	58.8	57.3	55.4	57.1	59.5	58.4	62.9
62°	59.9	56.8	54.3	56.9	54.0	52.6	50.8	52.3	54.6	53.5	57.7
63°	54.9	52.0	49.8	52.2	49.5	48.2	46.5	47.9	49.9	48.8	52.7
64°	49.9	47.4	45.6	47.8	45.2	44.0	42.4	43.7	45.6	44.4	47.9
65°	45.4	43.2	41.7	43.6	41.2	40.1	38.7	39.8	41.4	40.3	43.5
66°	41.1	39.3	37.9	39.7	37.4	36.5	35.2	36.2	37.6	36.4	39.4
67°	37.0	35.6	34.4	36.1	34.0	33.2	32.0	32.8	34.1	32.9	35.5
68°	33.4	32.1	31.2	32.8	30.8	30.1	29.1	29.8	30.8	29.6	31.9
69°	30.0	29.1	28.3	29.7	27.9	27.3	26.4	27.0	27.8	26.7	28.7
70°	27.0	26.2	25.5	26.9	25.3	24.8	23.9	24.5	25.2	24.1	25.8
71°	24.1	23.6	23.0	24.3	22.9	22.4	21.5	22.2	22.7	21.5	23.1
72°	21.4	21.2	20.7	21.9	20.7	20.2	19.2	20.0	20.5	19.2	20.7
73°	19.0	19.0	18.6	19.6	18.6	18.0	17.0	17.8	18.4	17.1	18.5
74°	16.7	16.8	16.5	17.5	16.6	16.0	15.0	15.8	16.3	15.1	16.4
75°	14.6	14.8	14.6	15.5	14.8	14.1	13.0	13.9	14.4	13.3	14.6
76°	12.6	12.9	12.8	13.6	13.0	12.3	11.1	12.0	12.6	11.6	12.8
77°	10.5	11.1	11.1	11.9	11.4	10.6	9.2	10.3	11.1	9.9	11.1
78°	8.6	9.4	9.6	10.2	9.8	9.0	7.8	8.7	9.5	8.4	9.5
79°	7.4	7.9	8.0	8.7	8.3	7.7	6.7	7.4	7.9	7.1	8.0
80°	6.3	6.7	6.8	7.3	7.1	6.5	5.8	6.3	6.7	6.1	6.9
81°	5.3	5.7	5.8	6.3	6.2	5.6	4.9	5.3	5.8	5.1	5.9
82°	4.4	4.7	4.9	5.4	5.3	4.7	4.0	4.4	4.8	4.3	5.0
83°	3.5	3.8	4.0	4.5	4.5	3.8	3.1	3.5	4.0	3.5	4.1
84°	2.6	3.0	3.2	3.7	3.6	3.0	2.3	2.7	3.1	2.7	3.3
85°	1.9	2.2	2.4	2.9	2.9	2.2	1.6	2.0	2.4	2.0	2.6
86°	1.1	1.5	1.7	2.2	2.2	1.5	0.9	1.3	1.7	1.3	1.9
87°	0.5	0.9	1.1	1.5	1.5	1.0	0.4	0.8	1.2	0.8	1.2



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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°	352.9	352.9
1°	352.9	352.9
2°	352.5	352.7
3°	352.1	352.3
4°	351.5	351.8
5°	350.7	351.0
6°	349.7	350.1
7°	348.6	349.0
8°	347.1	347.7
9°	345.5	346.2
10°	343.8	344.5
11°	341.8	342.5
12°	339.7	340.5
13°	337.3	338.2
14°	334.8	335.9
15°	332.1	333.2
16°	329.2	330.3
17°	326.1	327.3
18°	322.8	324.1
19°	319.3	320.7
20°	315.7	317.0
21°	311.7	313.3
22°	307.7	309.2
23°	303.5	305.1
24°	299.0	300.6
25°	294.4	296.1
26°	289.6	291.3
27°	284.7	286.4
28°	279.6	281.2
29°	274.3	275.9
30°	268.7	270.5
31°	263.3	264.9
32°	257.5	259.2
33°	251.5	253.2
34°	245.3	247.0
35°	238.8	240.6
36°	232.2	234.0
37°	225.6	227.3
38°	218.6	220.5
39°	211.8	213.5
40°	204.7	206.6
41°	197.7	199.4
42°	190.4	192.4



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**CANDELA DISTRIBUTION (continued):**

	330°	360°
45°	168.8	170.9
46°	161.5	163.7
47°	154.3	156.5
48°	147.0	149.3
49°	139.9	142.1
50°	132.9	135.1
51°	125.8	128.1
52°	119.0	121.2
53°	112.2	114.5
54°	105.5	107.7
55°	99.0	101.2
56°	93.0	94.8
57°	87.0	88.5
58°	81.0	82.4
59°	75.2	76.5
60°	69.5	70.8
61°	64.0	65.2
62°	58.8	59.9
63°	53.7	54.9
64°	49.0	49.9
65°	44.4	45.4
66°	40.2	41.1
67°	36.3	37.0
68°	32.6	33.4
69°	29.3	30.0
70°	26.3	27.0
71°	23.6	24.1
72°	21.0	21.4
73°	18.7	19.0
74°	16.5	16.7
75°	14.5	14.6
76°	12.6	12.6
77°	10.9	10.5
78°	9.2	8.6
79°	7.7	7.4
80°	6.6	6.3
81°	5.6	5.3
82°	4.6	4.4
83°	3.7	3.5
84°	2.9	2.6
85°	2.1	1.9
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°	185.3	180.7	177.1	182.2	177.3	176.0	172.4	176.1	178.9	176.6	182.7
44°	178.1	173.3	169.7	174.6	169.6	168.3	164.7	168.6	171.4	169.2	175.6



88°	0.3	0.5	0.6	0.9	0.9	0.5	0.2	0.4	0.7	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°	183.3	185.3
44°	176.1	178.1



88°	0.5	0.3
89°	0.1	0.1



(END OF REPORT)