

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1051147

Luminaire Tested: S122DR-B290DB30-4F0-XX-W2A-W

Issue Date: 7/9/2025

Test Information

Test Method: LM-79-2019
Report Number: P1051147
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 7/9/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DR-B290DB30-4F0-XX-W2A-W
Description: Define 2 Direct Recessed with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1319.0 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 0.9 / 1.12
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Direct

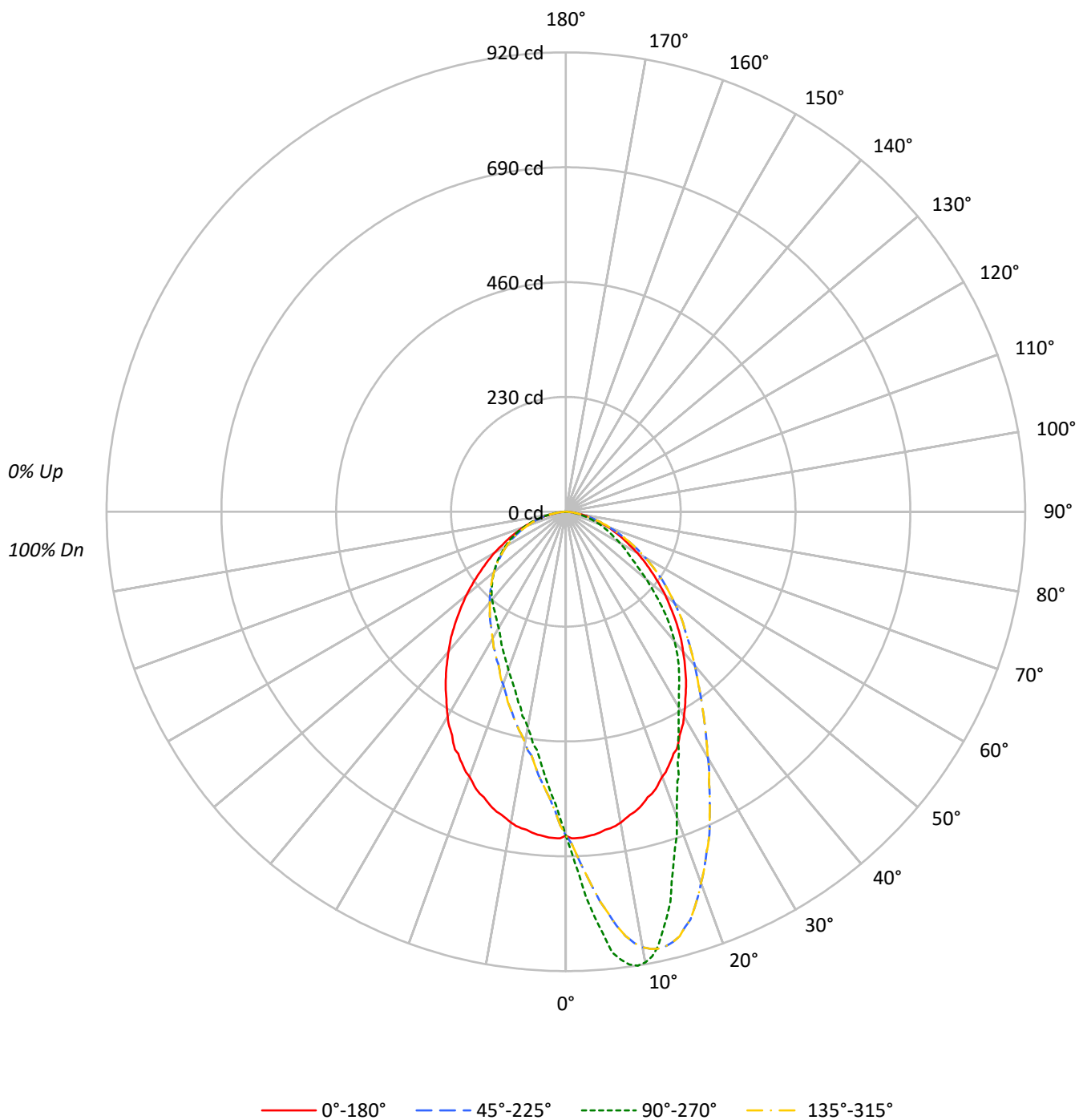
Input Watts (W): 13
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10262	10262	10262	10262
5°	10316	13459	10316	8255
10°	10162	14731	10162	7047
15°	9887	13253	9887	6250
20°	9509	10936	9509	5667
25°	9175	9346	9175	5252
30°	8649	8265	8649	4919
35°	8110	7645	8110	4779
40°	7548	6997	7548	4751
45°	6982	6163	6982	4688
50°	6398	5189	6398	4630
55°	5779	4366	5779	4551
60°	5246	3935	5246	4458
65°	4674	3569	4674	4371
70°	4207	3217	4207	4147
75°	3596	2807	3596	3786
80°	2926	2352	2926	3172
85°	2179	1780	2179	2270

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 11130 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.8	4.8
10°-20°	175.1	13.3
20°-30°	229.6	17.4
30°-40°	242.7	18.4
40°-50°	225.3	17.1
50°-60°	180.3	13.7
60°-70°	123.3	9.4
70°-80°	63.7	4.8
80°-90°	15.1	1.1
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°	468.5	35.5
0°-40°	711.2	53.9
0°-60°	1116.9	84.7
0°-90°	1319.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1319.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	648	648	648	648	648	
5°	649	847	649	520	649	61
15°	603	809	603	381	603	170
25°	525	535	525	301	525	240
35°	420	396	420	247	420	262
45°	312	275	312	209	312	241
55°	209	158	209	165	209	188
65°	125	95	125	117	125	124
75°	59	46	59	62	59	63
85°	12	10	12	12	12	15
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	648.3	648.3	648.3	648.3	648.3	648.3	648.3	648.3	648.3	648.3	648.3
1°	654.1	665.6	664.8	680.3	683.9	680.3	664.8	665.6	654.1	641.1	629.1
2°	654.1	680.3	692.4	716.9	724.0	716.9	692.4	680.3	654.1	626.4	601.5
3°	653.2	693.3	721.8	755.6	772.6	755.6	721.8	693.3	653.2	613.1	578.8
4°	650.9	706.6	751.6	796.6	811.8	796.6	751.6	706.6	650.9	600.2	561.4
5°	649.2	723.6	782.8	837.2	847.0	837.2	782.8	723.6	649.2	587.7	544.5
6°	646.0	740.5	807.8	867.5	887.5	867.5	807.8	740.5	646.0	575.6	529.3
7°	642.0	751.6	835.8	891.5	904.0	891.5	835.8	751.6	642.0	561.8	510.2
8°	640.2	769.9	858.1	910.7	915.6	910.7	858.1	769.9	640.2	548.9	493.2
9°	637.1	777.5	874.2	916.5	920.5	916.5	874.2	777.5	637.1	542.2	484.8
10°	632.2	789.1	885.7	918.3	916.5	918.3	885.7	789.1	632.2	528.4	470.5
11°	626.0	802.4	892.0	911.6	907.1	911.6	892.0	802.4	626.0	517.3	457.6
12°	620.2	811.8	894.7	899.1	889.3	899.1	894.7	811.8	620.2	507.5	448.7
13°	616.6	815.8	892.9	883.5	861.7	883.5	892.9	815.8	616.6	496.3	437.5
14°	610.4	824.7	888.0	859.5	836.7	859.5	888.0	824.7	610.4	483.9	427.3
15°	603.3	827.4	880.0	835.0	808.7	835.0	880.0	827.4	603.3	473.6	416.6
16°	594.8	830.5	865.3	804.7	769.5	804.7	865.3	830.5	594.8	462.0	406.8
17°	590.3	832.3	854.1	774.8	736.9	774.8	854.1	832.3	590.3	453.1	398.3
18°	583.2	830.9	834.1	749.9	707.1	749.9	834.1	830.9	583.2	442.9	385.8
19°	573.4	827.8	814.0	718.2	683.5	718.2	814.0	827.8	573.4	433.1	376.5
20°	564.5	826.5	791.7	689.3	649.2	689.3	791.7	826.5	564.5	424.2	367.6
21°	558.3	822.0	771.2	661.6	620.6	661.6	771.2	822.0	558.3	415.7	360.9
22.5°	544.5	813.6	736.9	619.3	583.2	619.3	736.9	813.6	544.5	401.4	346.2
23°	540.4	810.9	728.0	609.5	578.8	609.5	728.0	810.9	540.4	398.3	341.3
24°	530.2	802.4	707.1	583.2	550.7	583.2	707.1	802.4	530.2	388.5	333.3
25°	525.3	794.4	681.2	561.8	535.1	561.8	681.2	794.4	525.3	379.6	327.9
26°	514.6	782.8	658.1	544.0	513.3	544.0	658.1	782.8	514.6	371.6	319.5
27°	502.1	774.4	634.0	523.1	497.2	523.1	634.0	774.4	502.1	363.1	312.8
28°	493.2	760.5	610.8	506.6	481.6	506.6	610.8	760.5	493.2	353.8	307.9
29°	484.8	749.9	592.1	487.4	465.6	487.4	592.1	749.9	484.8	345.7	300.3
30°	473.2	735.6	568.5	472.3	452.2	472.3	568.5	735.6	473.2	336.4	293.6
32.5°	445.5	701.7	520.4	438.4	421.5	438.4	520.4	701.7	445.5	317.7	277.6
35°	419.7	663.9	476.3	406.8	395.6	406.8	476.3	663.9	419.7	297.6	264.7
37.5°	392.5	624.2	436.2	379.2	368.5	379.2	436.2	624.2	392.5	279.4	250.0
40°	365.3	585.0	401.9	352.9	338.6	352.9	401.9	585.0	365.3	261.5	237.0
42.5°	340.0	539.1	368.5	325.2	308.8	325.2	368.5	539.1	340.0	244.6	224.6
45°	311.9	497.2	338.6	296.3	275.3	296.3	338.6	497.2	311.9	228.6	212.1
47.5°	285.1	454.0	312.8	267.3	240.6	267.3	312.8	454.0	285.1	212.5	200.1
50°	259.8	412.1	283.8	234.8	210.7	234.8	283.8	412.1	259.8	197.8	187.6
52.5°	233.9	372.9	258.4	205.4	181.3	205.4	258.4	372.9	233.9	184.5	175.5
55°	209.4	331.9	233.0	176.9	158.2	176.9	233.0	331.9	209.4	168.9	161.7
57.5°	186.7	292.7	208.1	154.6	142.1	154.6	208.1	292.7	186.7	153.7	149.3
60°	165.7	256.6	183.6	134.1	124.3	134.1	183.6	256.6	165.7	139.0	136.8
62.5°	143.0	224.1	160.4	116.7	108.3	116.7	160.4	224.1	143.0	124.8	123.9
65°	124.8	191.1	136.3	101.1	95.3	101.1	136.3	191.1	124.8	110.5	110.0



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CATALOG NUMBER: S122DR-B290DB30-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	106.5	160.0	115.4	86.4	82.0	86.4	115.4	160.0	106.5	96.2	96.2
70°	90.9	131.9	95.3	73.1	69.5	73.1	95.3	131.9	90.9	82.0	82.4
72.5°	73.5	106.0	77.5	59.7	56.6	59.7	77.5	106.0	73.5	68.6	70.0
75°	58.8	83.8	61.0	48.1	45.9	48.1	61.0	83.8	58.8	54.8	56.6
77.5°	45.0	61.5	45.0	37.0	35.2	37.0	45.0	61.5	45.0	42.8	44.6
80°	32.1	43.2	32.1	26.3	25.8	26.3	32.1	43.2	32.1	30.7	33.0
82.5°	21.4	27.6	20.9	17.8	16.9	17.8	20.9	27.6	21.4	20.9	21.8
85°	12.0	15.1	11.6	10.2	9.8	10.2	11.6	15.1	12.0	12.0	12.9
87.5°	5.3	5.8	4.9	4.5	4.0	4.5	4.9	5.8	5.3	5.8	5.8
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: P1051147

CATALOG NUMBER: S122DR-B290DB30-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	648.3	648.3	648.3	648.3	648.3	648.3
1°	621.5	615.3	621.5	629.1	641.1	654.1
2°	594.8	586.3	594.8	601.5	626.4	654.1
3°	566.7	565.4	566.7	578.8	613.1	653.2
4°	548.5	542.2	548.5	561.4	600.2	650.9
5°	526.6	519.5	526.6	544.5	587.7	649.2
6°	507.9	498.1	507.9	529.3	575.6	646.0
7°	487.0	479.9	487.0	510.2	561.8	642.0
8°	479.0	470.5	479.0	493.2	548.9	640.2
9°	461.1	451.8	461.1	484.8	542.2	637.1
10°	450.0	438.4	450.0	470.5	528.4	632.2
11°	436.6	425.5	436.6	457.6	517.3	626.0
12°	428.6	418.8	428.6	448.7	507.5	620.2
13°	414.4	401.9	414.4	437.5	496.3	616.6
14°	404.1	393.4	404.1	427.3	483.9	610.4
15°	391.2	381.4	391.2	416.6	473.6	603.3
16°	382.7	369.8	382.7	406.8	462.0	594.8
17°	369.8	361.3	369.8	398.3	453.1	590.3
18°	360.4	352.4	360.4	385.8	442.9	583.2
19°	353.8	344.4	353.8	376.5	433.1	573.4
20°	344.4	336.4	344.4	367.6	424.2	564.5
21°	335.5	328.4	335.5	360.9	415.7	558.3
22.5°	327.0	317.2	327.0	346.2	401.4	544.5
23°	322.1	314.1	322.1	341.3	398.3	540.4
24°	316.3	307.0	316.3	333.3	388.5	530.2
25°	308.8	300.7	308.8	327.9	379.6	525.3
26°	302.1	294.5	302.1	319.5	371.6	514.6
27°	295.4	286.0	295.4	312.8	363.1	502.1
28°	289.6	280.7	289.6	307.9	353.8	493.2
29°	282.0	273.6	282.0	300.3	345.7	484.8
30°	276.7	269.1	276.7	293.6	336.4	473.2
32.5°	262.0	257.5	262.0	277.6	317.7	445.5
35°	249.5	247.3	249.5	264.7	297.6	419.7
37.5°	240.1	238.4	240.1	250.0	279.4	392.5
40°	229.5	229.9	229.5	237.0	261.5	365.3
42.5°	219.2	220.1	219.2	224.6	244.6	340.0
45°	209.4	209.4	209.4	212.1	228.6	311.9
47.5°	198.3	199.2	198.3	200.1	212.5	285.1
50°	187.1	188.0	187.1	187.6	197.8	259.8
52.5°	175.5	176.4	175.5	175.5	184.5	233.9
55°	163.1	164.9	163.1	161.7	168.9	209.4
57.5°	150.1	152.4	150.1	149.3	153.7	186.7
60°	138.6	140.8	138.6	136.8	139.0	165.7
62.5°	126.5	128.8	126.5	123.9	124.8	143.0
65°	114.1	116.7	114.1	110.0	110.5	124.8



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	100.7	102.9	100.7	96.2	96.2	106.5
70°	87.8	89.6	87.8	82.4	82.0	90.9
72.5°	74.4	76.2	74.4	70.0	68.6	73.5
75°	60.6	61.9	60.6	56.6	54.8	58.8
77.5°	48.1	48.1	48.1	44.6	42.8	45.0
80°	34.8	34.8	34.8	33.0	30.7	32.1
82.5°	23.2	23.2	23.2	21.8	20.9	21.4
85°	12.9	12.5	12.9	12.9	12.0	12.0
87.5°	4.9	5.3	4.9	5.8	5.8	5.3
90°	0.0	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	18.95	20.47	19.32	20.79	21.10	16.27	17.79	16.63	18.10	18.42
	3H	20.17	21.54	20.55	21.86	22.23	17.59	18.96	17.97	19.29	19.65
	4H	20.56	21.85	20.96	22.19	22.57	18.05	19.33	18.45	19.68	20.06
	6H	20.81	21.99	21.22	22.36	22.75	18.35	19.54	18.77	19.91	20.30
	8H	20.86	21.99	21.29	22.38	22.78	18.43	19.56	18.86	19.95	20.35
	12H	20.89	21.97	21.32	22.35	22.78	18.48	19.56	18.91	19.94	20.37
4H	2H	19.24	20.52	19.64	20.87	21.25	17.23	18.51	17.63	18.86	19.24
	3H	20.73	21.80	21.14	22.20	22.60	18.69	19.76	19.10	20.16	20.56
	4H	21.29	22.25	21.73	22.67	23.11	19.21	20.17	19.64	20.59	21.02
	6H	21.66	22.49	22.12	22.94	23.40	19.58	20.42	20.04	20.86	21.32
	8H	21.75	22.53	22.22	22.98	23.44	19.68	20.46	20.15	20.91	21.37
	12H	21.81	22.50	22.29	22.98	23.45	19.75	20.44	20.23	20.92	21.39
8H	4H	21.43	22.21	21.90	22.66	23.12	19.62	20.40	20.08	20.84	21.31
	6H	21.90	22.54	22.39	23.03	23.51	20.07	20.71	20.56	21.20	21.68
	8H	22.04	22.62	22.56	23.13	23.62	20.21	20.79	20.72	21.30	21.78
	12H	22.15	22.66	22.66	23.15	23.71	20.31	20.82	20.82	21.32	21.88
12H	4H	21.43	22.13	21.91	22.60	23.08	19.66	20.36	20.14	20.84	21.31
	6H	21.90	22.48	22.41	22.99	23.48	20.13	20.70	20.64	21.21	21.70
	8H	22.09	22.60	22.60	23.09	23.66	20.32	20.83	20.83	21.32	21.88