

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: P1051199

Luminaire Tested: S122DS-B290DB40-4F0-XX-W2A-W

Issue Date: 7/9/2025

Test Information

Test Method: LM-79-2019
Report Number: P1051199
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: S122DS-B290DB40-4F0-XX-W2A-W
Description: Define 2 Direct Surface with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1312.0 lumens
Efficiency: N/A
Efficacy: 100.9 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

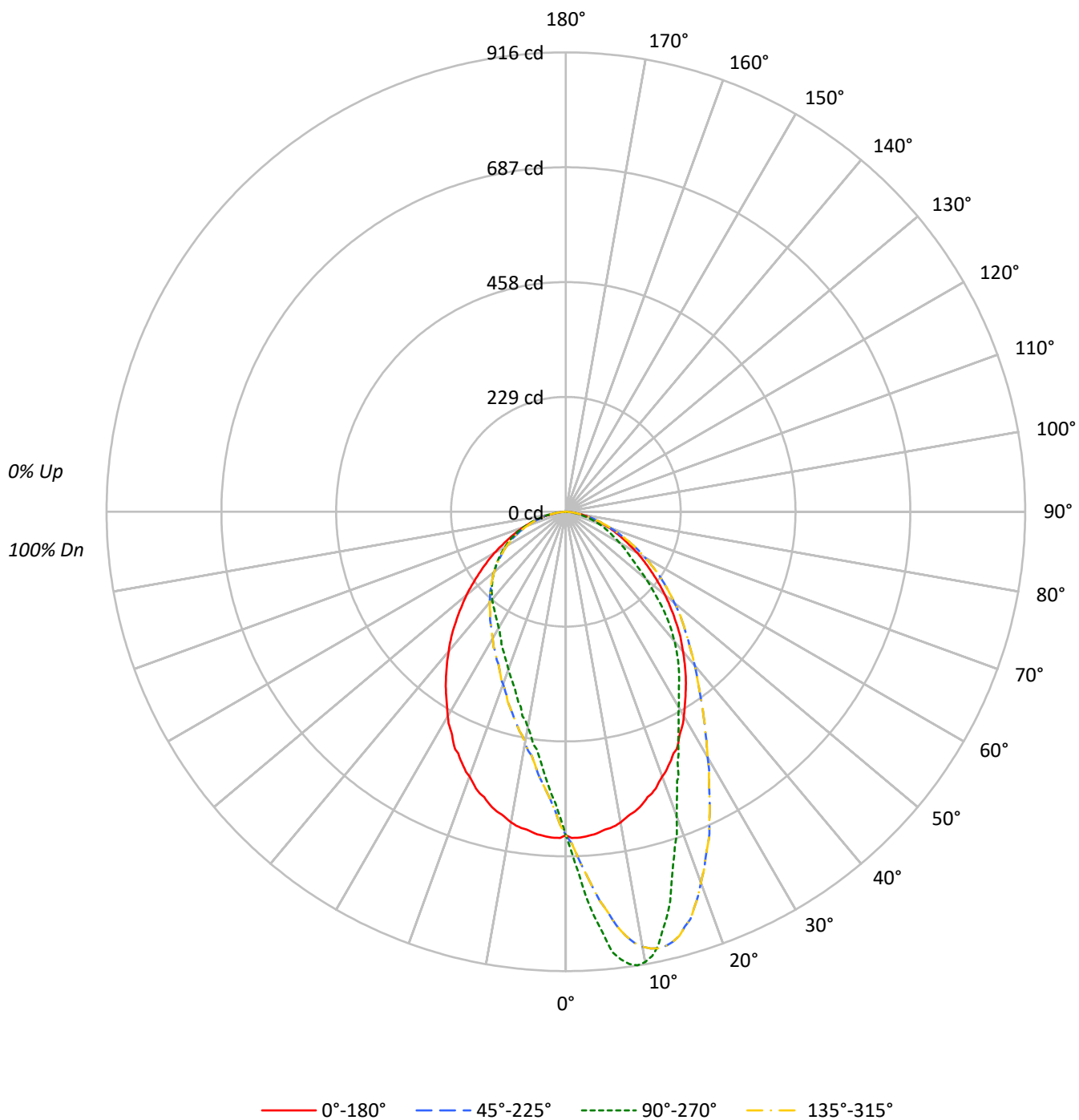
Input Watts (W): 13
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			0
RW	70	50	30	10	70	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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82	79	76	74
3	93	83	76	70	91	82	75	69	79	73	68		76	71	67		74	69	66	64
4	86	75	67	60	83	73	66	60	71	64	59		69	63	58		67	62	58	56
5	79	67	59	53	77	66	58	53	64	57	52		62	56	52		61	55	51	49
6	74	61	53	47	72	60	52	47	59	52	46		57	51	46		55	50	46	44
7	69	56	48	42	67	55	47	42	54	47	42		52	46	41		51	45	41	39
8	64	51	43	38	63	51	43	38	50	43	38		48	42	37		47	41	37	35
9	60	48	40	35	59	47	40	34	46	39	34		45	39	34		44	38	34	32
10	57	44	37	32	55	44	36	32	43	36	31		42	36	31		41	35	31	30

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10207	10207	10207	10207
5°	10260	13387	10260	8210
10°	10109	14653	10109	7010
15°	9834	13182	9834	6217
20°	9459	10877	9459	5636
25°	9126	9297	9126	5224
30°	8603	8221	8603	4893
35°	8068	7604	8068	4754
40°	7509	6960	7509	4726
45°	6944	6132	6944	4663
50°	6363	5162	6363	4605
55°	5749	4341	5749	4526
60°	5220	3913	5220	4432
65°	4648	3551	4648	4349
70°	4184	3198	4184	4124
75°	3578	2789	3578	3767
80°	2908	2343	2908	3154
85°	2179	1762	2179	2252

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 11072 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.5	4.8
10°-20°	174.2	13.3
20°-30°	228.4	17.4
30°-40°	241.4	18.4
40°-50°	224.1	17.1
50°-60°	179.4	13.7
60°-70°	122.7	9.4
70°-80°	63.3	4.8
80°-90°	15.0	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°	466.0	35.5
0°-40°	707.4	53.9
0°-60°	1111.0	84.7
0°-90°	1312.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1312.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	645	645	645	645	645	
5°	646	842	646	517	646	61
15°	600	804	600	379	600	169
25°	522	532	522	299	522	239
35°	418	394	418	246	418	261
45°	310	274	310	208	310	239
55°	208	157	208	164	208	187
65°	124	95	124	116	124	124
75°	58	46	58	62	58	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°	644.8	644.8	644.8	644.8	644.8	644.8	644.8	644.8	644.8	644.8	644.8
1°	650.6	662.1	661.2	676.7	680.3	676.7	661.2	662.1	650.6	637.7	625.8
2°	650.6	676.7	688.7	713.1	720.2	713.1	688.7	676.7	650.6	623.1	598.3
3°	649.7	689.6	718.0	751.6	768.5	751.6	718.0	689.6	649.7	609.8	575.7
4°	647.5	702.9	747.6	792.4	807.5	792.4	747.6	702.9	647.5	597.0	558.4
5°	645.7	719.7	778.7	832.7	842.5	832.7	778.7	719.7	645.7	584.6	541.6
6°	642.6	736.6	803.5	862.9	882.8	862.9	803.5	736.6	642.6	572.6	526.5
7°	638.6	747.6	831.4	886.8	899.2	886.8	831.4	747.6	638.6	558.9	507.4
8°	636.9	765.8	853.6	905.9	910.7	905.9	853.6	765.8	636.9	546.0	490.6
9°	633.7	773.4	869.5	911.6	915.6	911.6	869.5	773.4	633.7	539.4	482.2
10°	628.9	784.9	881.0	913.4	911.6	913.4	881.0	784.9	628.9	525.6	468.0
11°	622.7	798.2	887.2	906.7	902.3	906.7	887.2	798.2	622.7	514.5	455.1
12°	616.9	807.5	889.9	894.3	884.6	894.3	889.9	807.5	616.9	504.8	446.3
13°	613.4	811.5	888.1	878.8	857.1	878.8	888.1	811.5	613.4	493.7	435.2
14°	607.2	820.3	883.3	854.9	832.3	854.9	883.3	820.3	607.2	481.3	425.0
15°	600.1	823.0	875.3	830.5	804.4	830.5	875.3	823.0	600.1	471.1	414.4
16°	591.6	826.1	860.7	800.4	765.4	800.4	860.7	826.1	591.6	459.6	404.6
17°	587.2	827.9	849.6	770.7	733.0	770.7	849.6	827.9	587.2	450.7	396.2
18°	580.1	826.5	829.6	745.9	703.3	745.9	829.6	826.5	580.1	440.5	383.8
19°	570.4	823.4	809.7	714.4	679.8	714.4	809.7	823.4	570.4	430.8	374.5
20°	561.5	822.1	787.5	685.6	645.7	685.6	787.5	822.1	561.5	421.9	365.6
21°	555.3	817.7	767.1	658.1	617.4	658.1	767.1	817.7	555.3	413.5	359.0
22.5°	541.6	809.2	733.0	616.0	580.1	616.0	733.0	809.2	541.6	399.3	344.4
23°	537.6	806.6	724.2	606.3	575.7	606.3	724.2	806.6	537.6	396.2	339.5
24°	527.4	798.2	703.3	580.1	547.8	580.1	703.3	798.2	527.4	386.5	331.5
25°	522.5	790.2	677.6	558.9	532.3	558.9	677.6	790.2	522.5	377.6	326.2
26°	511.9	778.7	654.6	541.1	510.5	541.1	654.6	778.7	511.9	369.6	317.8
27°	499.5	770.2	630.6	520.3	494.6	520.3	630.6	770.2	499.5	361.2	311.1
28°	490.6	756.5	607.6	503.9	479.1	503.9	607.6	756.5	490.6	351.9	306.2
29°	482.2	745.9	589.0	484.8	463.1	484.8	589.0	745.9	482.2	343.9	298.7
30°	470.7	731.7	565.5	469.8	449.8	469.8	565.5	731.7	470.7	334.6	292.1
32.5°	443.2	698.0	517.6	436.1	419.2	436.1	517.6	698.0	443.2	316.0	276.1
35°	417.5	660.3	473.8	404.6	393.5	404.6	473.8	660.3	417.5	296.0	263.2
37.5°	390.4	620.9	433.9	377.1	366.5	377.1	433.9	620.9	390.4	277.9	248.6
40°	363.4	581.9	399.7	351.0	336.8	351.0	399.7	581.9	363.4	260.1	235.8
42.5°	338.1	536.2	366.5	323.5	307.1	323.5	366.5	536.2	338.1	243.3	223.4
45°	310.2	494.6	336.8	294.7	273.9	294.7	336.8	494.6	310.2	227.4	211.0
47.5°	283.6	451.6	311.1	265.9	239.3	265.9	311.1	451.6	283.6	211.4	199.0
50°	258.4	409.9	282.3	233.6	209.6	233.6	282.3	409.9	258.4	196.8	186.6
52.5°	232.7	370.9	257.0	204.3	180.4	204.3	257.0	370.9	232.7	183.5	174.6
55°	208.3	330.2	231.8	175.9	157.3	175.9	231.8	330.2	208.3	168.0	160.9
57.5°	185.7	291.2	207.0	153.8	141.4	153.8	207.0	291.2	185.7	152.9	148.5
60°	164.9	255.3	182.6	133.4	123.6	133.4	182.6	255.3	164.9	138.3	136.1
62.5°	142.3	222.9	159.5	116.1	107.7	116.1	159.5	222.9	142.3	124.1	123.2
65°	124.1	190.1	135.6	100.6	94.8	100.6	135.6	190.1	124.1	109.9	109.5



TEST NUMBER: P1051199

CATALOG NUMBER: S122DS-B290DB40-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	105.9	159.1	114.8	86.0	81.5	86.0	114.8	159.1	105.9	95.7	95.7
70°	90.4	131.2	94.8	72.7	69.1	72.7	94.8	131.2	90.4	81.5	82.0
72.5°	73.1	105.5	77.1	59.4	56.3	59.4	77.1	105.5	73.1	68.2	69.6
75°	58.5	83.3	60.7	47.9	45.6	47.9	60.7	83.3	58.5	54.5	56.3
77.5°	44.8	61.2	44.8	36.8	35.0	36.8	44.8	61.2	44.8	42.5	44.3
80°	31.9	43.0	31.9	26.1	25.7	26.1	31.9	43.0	31.9	30.6	32.8
82.5°	21.3	27.5	20.8	17.7	16.8	17.7	20.8	27.5	21.3	20.8	21.7
85°	12.0	15.1	11.5	10.2	9.7	10.2	11.5	15.1	12.0	12.0	12.9
87.5°	5.3	5.8	4.9	4.4	4.0	4.4	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: P1051199

CATALOG NUMBER: S122DS-B290DB40-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	644.8	644.8	644.8	644.8	644.8	644.8
1°	618.2	612.0	618.2	625.8	637.7	650.6
2°	591.6	583.2	591.6	598.3	623.1	650.6
3°	563.7	562.4	563.7	575.7	609.8	649.7
4°	545.6	539.4	545.6	558.4	597.0	647.5
5°	523.8	516.7	523.8	541.6	584.6	645.7
6°	505.2	495.5	505.2	526.5	572.6	642.6
7°	484.4	477.3	484.4	507.4	558.9	638.6
8°	476.4	468.0	476.4	490.6	546.0	636.9
9°	458.7	449.4	458.7	482.2	539.4	633.7
10°	447.6	436.1	447.6	468.0	525.6	628.9
11°	434.3	423.2	434.3	455.1	514.5	622.7
12°	426.3	416.6	426.3	446.3	504.8	616.9
13°	412.2	399.7	412.2	435.2	493.7	613.4
14°	402.0	391.3	402.0	425.0	481.3	607.2
15°	389.1	379.4	389.1	414.4	471.1	600.1
16°	380.7	367.8	380.7	404.6	459.6	591.6
17°	367.8	359.4	367.8	396.2	450.7	587.2
18°	358.5	350.6	358.5	383.8	440.5	580.1
19°	351.9	342.6	351.9	374.5	430.8	570.4
20°	342.6	334.6	342.6	365.6	421.9	561.5
21°	333.7	326.6	333.7	359.0	413.5	555.3
22.5°	325.3	315.5	325.3	344.4	399.3	541.6
23°	320.4	312.4	320.4	339.5	396.2	537.6
24°	314.7	305.4	314.7	331.5	386.5	527.4
25°	307.1	299.1	307.1	326.2	377.6	522.5
26°	300.5	292.9	300.5	317.8	369.6	511.9
27°	293.8	284.5	293.8	311.1	361.2	499.5
28°	288.1	279.2	288.1	306.2	351.9	490.6
29°	280.5	272.1	280.5	298.7	343.9	482.2
30°	275.2	267.7	275.2	292.1	334.6	470.7
32.5°	260.6	256.2	260.6	276.1	316.0	443.2
35°	248.2	246.0	248.2	263.2	296.0	417.5
37.5°	238.9	237.1	238.9	248.6	277.9	390.4
40°	228.2	228.7	228.2	235.8	260.1	363.4
42.5°	218.0	218.9	218.0	223.4	243.3	338.1
45°	208.3	208.3	208.3	211.0	227.4	310.2
47.5°	197.2	198.1	197.2	199.0	211.4	283.6
50°	186.1	187.0	186.1	186.6	196.8	258.4
52.5°	174.6	175.5	174.6	174.6	183.5	232.7
55°	162.2	164.0	162.2	160.9	168.0	208.3
57.5°	149.4	151.6	149.4	148.5	152.9	185.7
60°	137.8	140.0	137.8	136.1	138.3	164.9
62.5°	125.9	128.1	125.9	123.2	124.1	142.3
65°	113.5	116.1	113.5	109.5	109.9	124.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	100.2	102.4	100.2	95.7	95.7	105.9
70°	87.3	89.1	87.3	82.0	81.5	90.4
72.5°	74.0	75.8	74.0	69.6	68.2	73.1
75°	60.3	61.6	60.3	56.3	54.5	58.5
77.5°	47.9	47.9	47.9	44.3	42.5	44.8
80°	34.6	34.6	34.6	32.8	30.6	31.9
82.5°	23.0	23.0	23.0	21.7	20.8	21.3
85°	12.9	12.4	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	18.94	20.46	19.30	20.77	21.09	16.25	17.77	16.61	18.09	18.40
	3H	20.15	21.52	20.53	21.85	22.21	17.58	18.94	17.95	19.27	19.63
	4H	20.55	21.83	20.94	22.18	22.55	18.03	19.31	18.43	19.66	20.04
	6H	20.79	21.97	21.20	22.34	22.73	18.34	19.52	18.75	19.89	20.28
	8H	20.85	21.97	21.27	22.36	22.76	18.42	19.54	18.84	19.93	20.33
	12H	20.87	21.95	21.30	22.33	22.76	18.46	19.54	18.89	19.92	20.35
4H	2H	19.22	20.50	19.62	20.85	21.23	17.21	18.49	17.61	18.84	19.22
	3H	20.72	21.78	21.13	22.18	22.58	18.68	19.74	19.09	20.14	20.54
	4H	21.27	22.23	21.71	22.65	23.09	19.19	20.15	19.63	20.57	21.01
	6H	21.64	22.48	22.10	22.92	23.38	19.57	20.40	20.02	20.84	21.30
	8H	21.73	22.51	22.20	22.96	23.42	19.67	20.45	20.13	20.89	21.36
	12H	21.79	22.48	22.27	22.96	23.43	19.73	20.43	20.21	20.90	21.37
8H	4H	21.41	22.19	21.88	22.64	23.11	19.60	20.38	20.06	20.82	21.29
	6H	21.88	22.52	22.37	23.01	23.49	20.05	20.69	20.54	21.18	21.66
	8H	22.03	22.60	22.54	23.11	23.60	20.19	20.77	20.70	21.28	21.76
	12H	22.13	22.64	22.64	23.13	23.70	20.30	20.81	20.81	21.30	21.86
12H	4H	21.41	22.11	21.89	22.59	23.06	19.64	20.34	20.13	20.82	21.29
	6H	21.88	22.46	22.40	22.97	23.46	20.11	20.69	20.62	21.20	21.68
	8H	22.07	22.58	22.58	23.07	23.64	20.30	20.81	20.81	21.30	21.86