

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: P1051150

Luminaire Tested: S122DR-B290DB50-4F0-XX-W2A-W

Issue Date: 7/9/2025

Test Information

Test Method: LM-79-2019
Report Number: P1051150
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-B290DB50-4F0-XX-W2A-W
Description: Define 2 Direct Recessed with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1268.0 lumens
Efficiency: N/A
Efficacy: 97.5 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

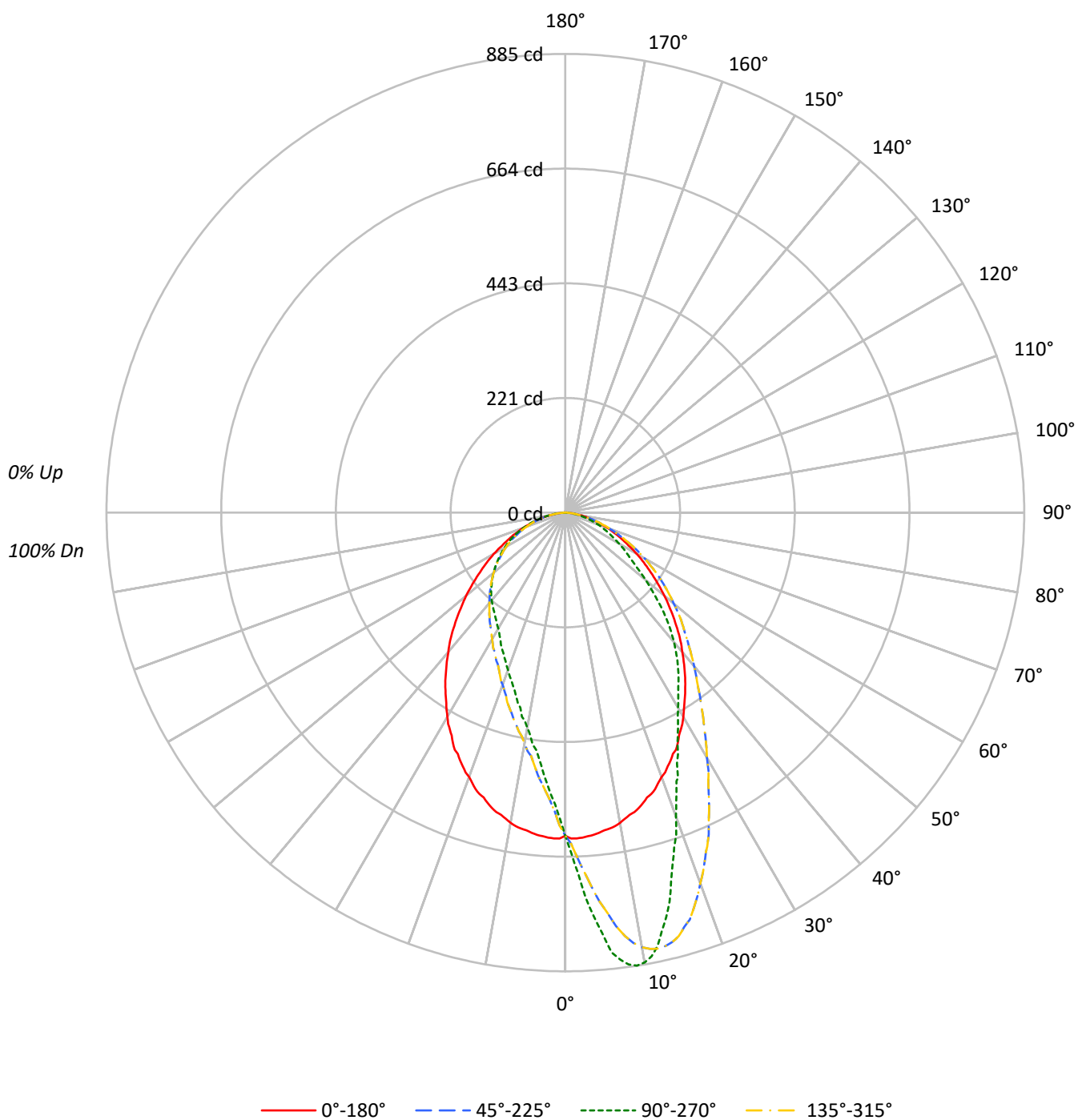
Input Watts (W): 13
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9865	9865	9865	9865
5°	9917	12937	9917	7935
10°	9769	14162	9769	6775
15°	9503	12740	9503	6008
20°	9142	10513	9142	5448
25°	8820	8984	8820	5049
30°	8315	7945	8315	4729
35°	7797	7349	7797	4593
40°	7257	6726	7257	4567
45°	6711	5926	6711	4506
50°	6149	4989	6149	4452
55°	5555	4198	5555	4374
60°	5043	3783	5043	4283
65°	4491	3435	4491	4202
70°	4045	3092	4045	3985
75°	3456	2697	3456	3639
80°	2808	2261	2808	3045
85°	2107	1707	2107	2179

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 10701 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.3	4.8
10°-20°	168.3	13.3
20°-30°	220.7	17.4
30°-40°	233.3	18.4
40°-50°	216.6	17.1
50°-60°	173.4	13.7
60°-70°	118.6	9.4
70°-80°	61.2	4.8
80°-90°	14.5	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°	450.4	35.5
0°-40°	683.7	53.9
0°-60°	1073.7	84.7
0°-90°	1268.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1268.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	623	623	623	623	623	
5°	624	814	624	499	624	59
15°	580	777	580	367	580	163
25°	505	514	505	289	505	231
35°	404	380	404	238	404	252
45°	300	265	300	201	300	231
55°	201	152	201	158	201	181
65°	120	92	120	112	120	119
75°	56	44	56	60	56	61
85°	12	9	12	12	12	14
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°	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2
1°	628.8	639.9	639.1	654.0	657.5	654.0	639.1	639.9	628.8	616.4	604.8
2°	628.8	654.0	665.6	689.2	696.0	689.2	665.6	654.0	628.8	602.2	578.2
3°	627.9	666.5	693.9	726.4	742.7	726.4	693.9	666.5	627.9	589.4	556.4
4°	625.8	679.3	722.6	765.8	780.4	765.8	722.6	679.3	625.8	576.9	539.7
5°	624.1	695.6	752.6	804.8	814.2	804.8	752.6	695.6	624.1	565.0	523.4
6°	621.1	711.9	776.5	833.9	853.2	833.9	776.5	711.9	621.1	553.4	508.8
7°	617.2	722.6	803.5	857.1	869.1	857.1	803.5	722.6	617.2	540.1	490.4
8°	615.5	740.1	824.9	875.5	880.2	875.5	824.9	740.1	615.5	527.7	474.1
9°	612.5	747.4	840.4	881.1	884.9	881.1	840.4	747.4	612.5	521.3	466.0
10°	607.8	758.6	851.5	882.8	881.1	882.8	851.5	758.6	607.8	508.0	452.3
11°	601.8	771.4	857.5	876.3	872.1	876.3	857.5	771.4	601.8	497.3	439.9
12°	596.2	780.4	860.1	864.3	854.9	864.3	860.1	780.4	596.2	487.9	431.3
13°	592.8	784.3	858.4	849.4	828.4	849.4	858.4	784.3	592.8	477.1	420.6
14°	586.8	792.8	853.6	826.2	804.4	826.2	853.6	792.8	586.8	465.2	410.8
15°	579.9	795.4	845.9	802.7	777.4	802.7	845.9	795.4	579.9	455.3	400.5
16°	571.8	798.4	831.8	773.5	739.7	773.5	831.8	798.4	571.8	444.2	391.1
17°	567.5	800.1	821.1	744.8	708.4	744.8	821.1	800.1	567.5	435.6	382.9
18°	560.7	798.8	801.8	720.9	679.7	720.9	801.8	798.8	560.7	425.7	370.9
19°	551.2	795.8	782.5	690.4	657.0	690.4	782.5	795.8	551.2	416.3	361.9
20°	542.7	794.5	761.1	662.6	624.1	662.6	761.1	794.5	542.7	407.8	353.4
21°	536.7	790.2	741.4	636.1	596.6	636.1	741.4	790.2	536.7	399.6	346.9
22.5°	523.4	782.1	708.4	595.4	560.7	595.4	708.4	782.1	523.4	385.9	332.8
23°	519.6	779.5	699.9	585.9	556.4	585.9	699.9	779.5	519.6	382.9	328.1
24°	509.7	771.4	679.7	560.7	529.4	560.7	679.7	771.4	509.7	373.5	320.4
25°	505.0	763.7	654.9	540.1	514.4	540.1	654.9	763.7	505.0	364.9	315.2
26°	494.7	752.6	632.6	523.0	493.4	523.0	632.6	752.6	494.7	357.2	307.1
27°	482.7	744.4	609.5	502.8	478.0	502.8	609.5	744.4	482.7	349.1	300.7
28°	474.1	731.1	587.2	487.0	463.0	487.0	587.2	731.1	474.1	340.1	296.0
29°	466.0	720.9	569.2	468.6	447.6	468.6	569.2	720.9	466.0	332.4	288.7
30°	454.9	707.2	546.5	454.0	434.7	454.0	546.5	707.2	454.9	323.4	282.3
32.5°	428.3	674.6	500.3	421.5	405.2	421.5	500.3	674.6	428.3	305.4	266.8
35°	403.5	638.2	457.9	391.1	380.3	391.1	457.9	638.2	403.5	286.1	254.4
37.5°	377.3	600.1	419.3	364.5	354.2	364.5	419.3	600.1	377.3	268.6	240.3
40°	351.2	562.4	386.3	339.2	325.5	339.2	386.3	562.4	351.2	251.4	227.9
42.5°	326.8	518.3	354.2	312.7	296.8	312.7	354.2	518.3	326.8	235.1	215.9
45°	299.8	478.0	325.5	284.8	264.7	284.8	325.5	478.0	299.8	219.7	203.9
47.5°	274.1	436.5	300.7	257.0	231.3	257.0	300.7	436.5	274.1	204.3	192.3
50°	249.7	396.2	272.8	225.7	202.6	225.7	272.8	396.2	249.7	190.2	180.3
52.5°	224.9	358.5	248.4	197.5	174.3	197.5	248.4	358.5	224.9	177.3	168.8
55°	201.3	319.1	224.0	170.0	152.1	170.0	224.0	319.1	201.3	162.3	155.5
57.5°	179.5	281.4	200.0	148.6	136.6	148.6	200.0	281.4	179.5	147.8	143.5
60°	159.3	246.7	176.5	128.9	119.5	128.9	176.5	246.7	159.3	133.6	131.5
62.5°	137.5	215.4	154.2	112.2	104.1	112.2	154.2	215.4	137.5	119.9	119.1
65°	119.9	183.7	131.1	97.2	91.7	97.2	131.1	183.7	119.9	106.2	105.8



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CATALOG NUMBER: S122DR-B290DB50-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	102.4	153.8	110.9	83.1	78.8	83.1	110.9	153.8	102.4	92.5	92.5
70°	87.4	126.8	91.7	70.2	66.8	70.2	91.7	126.8	87.4	78.8	79.2
72.5°	70.7	101.9	74.5	57.4	54.4	57.4	74.5	101.9	70.7	66.0	67.2
75°	56.5	80.5	58.7	46.3	44.1	46.3	58.7	80.5	56.5	52.7	54.4
77.5°	43.3	59.1	43.3	35.6	33.8	35.6	43.3	59.1	43.3	41.1	42.8
80°	30.8	41.5	30.8	25.3	24.8	25.3	30.8	41.5	30.8	29.6	31.7
82.5°	20.6	26.6	20.1	17.1	16.3	17.1	20.1	26.6	20.6	20.1	21.0
85°	11.6	14.6	11.1	9.9	9.4	9.9	11.1	14.6	11.6	11.6	12.4
87.5°	5.1	5.6	4.7	4.3	3.9	4.3	4.7	5.6	5.1	5.6	5.6
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: P1051150

CATALOG NUMBER: S122DR-B290DB50-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	623.2	623.2	623.2	623.2	623.2	623.2
1°	597.5	591.5	597.5	604.8	616.4	628.8
2°	571.8	563.7	571.8	578.2	602.2	628.8
3°	544.8	543.5	544.8	556.4	589.4	627.9
4°	527.3	521.3	527.3	539.7	576.9	625.8
5°	506.3	499.4	506.3	523.4	565.0	624.1
6°	488.3	478.9	488.3	508.8	553.4	621.1
7°	468.2	461.3	468.2	490.4	540.1	617.2
8°	460.4	452.3	460.4	474.1	527.7	615.5
9°	443.3	434.3	443.3	466.0	521.3	612.5
10°	432.6	421.5	432.6	452.3	508.0	607.8
11°	419.8	409.0	419.8	439.9	497.3	601.8
12°	412.0	402.6	412.0	431.3	487.9	596.2
13°	398.3	386.3	398.3	420.6	477.1	592.8
14°	388.5	378.2	388.5	410.8	465.2	586.8
15°	376.1	366.6	376.1	400.5	455.3	579.9
16°	367.9	355.5	367.9	391.1	444.2	571.8
17°	355.5	347.4	355.5	382.9	435.6	567.5
18°	346.5	338.8	346.5	370.9	425.7	560.7
19°	340.1	331.1	340.1	361.9	416.3	551.2
20°	331.1	323.4	331.1	353.4	407.8	542.7
21°	322.5	315.7	322.5	346.9	399.6	536.7
22.5°	314.4	305.0	314.4	332.8	385.9	523.4
23°	309.7	302.0	309.7	328.1	382.9	519.6
24°	304.1	295.1	304.1	320.4	373.5	509.7
25°	296.8	289.1	296.8	315.2	364.9	505.0
26°	290.4	283.1	290.4	307.1	357.2	494.7
27°	284.0	275.0	284.0	300.7	349.1	482.7
28°	278.4	269.8	278.4	296.0	340.1	474.1
29°	271.1	263.0	271.1	288.7	332.4	466.0
30°	266.0	258.7	266.0	282.3	323.4	454.9
32.5°	251.9	247.6	251.9	266.8	305.4	428.3
35°	239.9	237.7	239.9	254.4	286.1	403.5
37.5°	230.9	229.2	230.9	240.3	268.6	377.3
40°	220.6	221.0	220.6	227.9	251.4	351.2
42.5°	210.7	211.6	210.7	215.9	235.1	326.8
45°	201.3	201.3	201.3	203.9	219.7	299.8
47.5°	190.6	191.5	190.6	192.3	204.3	274.1
50°	179.9	180.8	179.9	180.3	190.2	249.7
52.5°	168.8	169.6	168.8	168.8	177.3	224.9
55°	156.8	158.5	156.8	155.5	162.3	201.3
57.5°	144.3	146.5	144.3	143.5	147.8	179.5
60°	133.2	135.3	133.2	131.5	133.6	159.3
62.5°	121.6	123.8	121.6	119.1	119.9	137.5
65°	109.6	112.2	109.6	105.8	106.2	119.9



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	96.8	98.9	96.8	92.5	92.5	102.4
70°	84.4	86.1	84.4	79.2	78.8	87.4
72.5°	71.5	73.2	71.5	67.2	66.0	70.7
75°	58.3	59.5	58.3	54.4	52.7	56.5
77.5°	46.3	46.3	46.3	42.8	41.1	43.3
80°	33.4	33.4	33.4	31.7	29.6	30.8
82.5°	22.3	22.3	22.3	21.0	20.1	20.6
85°	12.4	12.0	12.4	12.4	11.6	11.6
87.5°	4.7	5.1	4.7	5.6	5.6	5.1
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	18.82	20.34	19.18	20.65	20.97	16.13	17.65	16.49	17.96	18.28
	3H	20.03	21.40	20.41	21.73	22.09	17.46	18.82	17.83	19.15	19.51
	4H	20.43	21.71	20.83	22.06	22.44	17.91	19.20	18.31	19.54	19.92
	6H	20.67	21.85	21.08	22.22	22.61	18.22	19.40	18.63	19.77	20.16
	8H	20.73	21.86	21.15	22.25	22.65	18.30	19.43	18.72	19.81	20.22
	12H	20.75	21.83	21.18	22.22	22.65	18.34	19.42	18.77	19.80	20.23
4H	2H	19.10	20.38	19.50	20.73	21.11	17.09	18.37	17.49	18.72	19.10
	3H	20.60	21.66	21.01	22.06	22.46	18.56	19.62	18.97	20.02	20.42
	4H	21.16	22.12	21.59	22.53	22.97	19.08	20.03	19.51	20.45	20.89
	6H	21.52	22.36	21.98	22.80	23.26	19.45	20.28	19.90	20.72	21.18
	8H	21.62	22.39	22.08	22.84	23.31	19.55	20.33	20.01	20.77	21.24
	12H	21.67	22.37	22.15	22.84	23.31	19.61	20.31	20.09	20.79	21.26
8H	4H	21.30	22.08	21.76	22.52	22.99	19.48	20.26	19.95	20.71	21.17
	6H	21.76	22.40	22.26	22.89	23.37	19.93	20.57	20.43	21.06	21.54
	8H	21.91	22.48	22.42	22.99	23.48	20.07	20.65	20.59	21.16	21.65
	12H	22.01	22.52	22.52	23.01	23.58	20.18	20.69	20.69	21.18	21.74
12H	4H	21.29	21.99	21.78	22.47	22.94	19.53	20.22	20.01	20.70	21.17
	6H	21.76	22.34	22.28	22.85	23.34	19.99	20.57	20.50	21.08	21.57
	8H	21.95	22.46	22.46	22.96	23.52	20.18	20.69	20.69	21.18	21.75