

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: P1051148

Luminaire Tested: S122DR-B290DB35-4F0-XX-W2A-W

Issue Date: 7/9/2025

Test Information

Test Method: LM-79-2019
Report Number: P1051148
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-B290DB35-4F0-XX-W2A-W
Description: Define 2 Direct Recessed with 3500K BioUP LEDs {m-DER=0.721} {m-EER=0.792}
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1325.0 lumens
Efficiency: N/A
Efficacy: 101.9 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

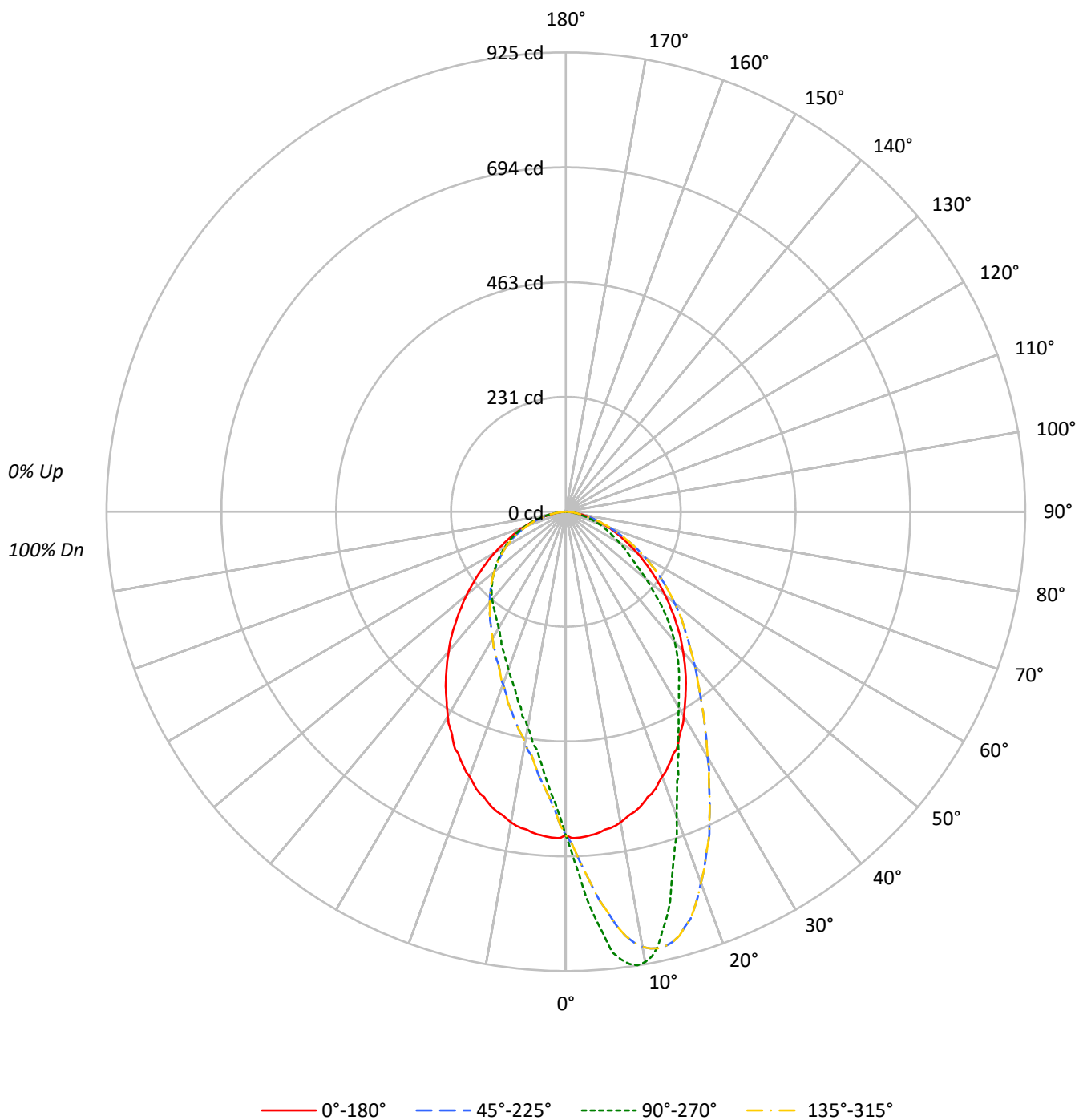
Input Watts (W): 13
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10308	10308	10308	10308
5°	10362	13519	10362	8293
10°	10208	14799	10208	7079
15°	9931	13312	9931	6278
20°	9553	10985	9553	5692
25°	9217	9388	9217	5276
30°	8688	8304	8688	4941
35°	8147	7679	8147	4800
40°	7584	7030	7584	4771
45°	7014	6192	7014	4710
50°	6425	5213	6425	4652
55°	5807	4385	5807	4570
60°	5271	3954	5271	4477
65°	4693	3588	4693	4394
70°	4226	3230	4226	4165
75°	3615	2819	3615	3804
80°	2935	2370	2935	3181
85°	2198	1780	2198	2270

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 11182 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.1	4.8
10°-20°	175.9	13.3
20°-30°	230.7	17.4
30°-40°	243.8	18.4
40°-50°	226.4	17.1
50°-60°	181.2	13.7
60°-70°	123.9	9.4
70°-80°	63.9	4.8
80°-90°	15.2	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°	470.6	35.5
0°-40°	714.4	53.9
0°-60°	1122.0	84.7
0°-90°	1325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1325.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	651	651	651	651	651	
5°	652	851	652	522	652	62
15°	606	812	606	383	606	170
25°	528	538	528	302	528	241
35°	422	397	422	248	422	263
45°	313	277	313	210	313	242
55°	210	159	210	166	210	189
65°	125	96	125	117	125	125
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°	651.2	651.2	651.2	651.2	651.2	651.2	651.2	651.2	651.2	651.2	651.2
1°	657.0	668.7	667.8	683.4	687.0	683.4	667.8	668.7	657.0	644.1	632.0
2°	657.0	683.4	695.5	720.1	727.3	720.1	695.5	683.4	657.0	629.3	604.2
3°	656.1	696.4	725.1	759.1	776.1	759.1	725.1	696.4	656.1	615.9	581.4
4°	653.9	709.9	755.1	800.3	815.5	800.3	755.1	709.9	653.9	602.9	563.9
5°	652.1	726.9	786.4	841.0	850.8	841.0	786.4	726.9	652.1	590.3	546.9
6°	649.0	743.9	811.4	871.4	891.6	871.4	811.4	743.9	649.0	578.3	531.7
7°	645.0	755.1	839.6	895.6	908.1	895.6	839.6	755.1	645.0	564.4	512.5
8°	643.2	773.4	862.0	914.8	919.8	914.8	862.0	773.4	643.2	551.4	495.5
9°	640.0	781.0	878.1	920.7	924.7	920.7	878.1	781.0	640.0	544.7	487.0
10°	635.1	792.7	889.8	922.4	920.7	922.4	889.8	792.7	635.1	530.8	472.6
11°	628.8	806.1	896.0	915.7	911.3	915.7	896.0	806.1	628.8	519.6	459.7
12°	623.0	815.5	898.7	903.2	893.4	903.2	898.7	815.5	623.0	509.8	450.7
13°	619.4	819.5	896.9	887.5	865.6	887.5	896.9	819.5	619.4	498.6	439.5
14°	613.2	828.5	892.0	863.4	840.5	863.4	892.0	828.5	613.2	486.1	429.2
15°	606.0	831.1	884.0	838.8	812.3	838.8	884.0	831.1	606.0	475.8	418.5
16°	597.5	834.3	869.2	808.3	773.0	808.3	869.2	834.3	597.5	464.1	408.6
17°	593.0	836.1	858.0	778.3	740.3	778.3	858.0	836.1	593.0	455.2	400.1
18°	585.9	834.7	837.9	753.3	710.3	753.3	837.9	834.7	585.9	444.9	387.6
19°	576.0	831.6	817.7	721.5	686.6	721.5	831.6	576.0	435.0	378.2	378.2
20°	567.1	830.2	795.3	692.4	652.1	692.4	795.3	830.2	567.1	426.1	369.2
21°	560.8	825.8	774.7	664.6	623.5	664.6	774.7	825.8	560.8	417.6	362.5
22.5°	546.9	817.3	740.3	622.1	585.9	622.1	740.3	817.3	546.9	403.3	347.8
23°	542.9	814.6	731.3	612.3	581.4	612.3	731.3	814.6	542.9	400.1	342.8
24°	532.6	806.1	710.3	585.9	553.2	585.9	710.3	806.1	532.6	390.3	334.8
25°	527.7	798.0	684.3	564.4	537.5	564.4	684.3	798.0	527.7	381.3	329.4
26°	516.9	786.4	661.1	546.5	515.6	546.5	661.1	786.4	516.9	373.3	320.9
27°	504.4	777.9	636.9	525.5	499.5	525.5	636.9	777.9	504.4	364.8	314.2
28°	495.5	764.0	613.6	508.9	483.8	508.9	613.6	764.0	495.5	355.4	309.3
29°	487.0	753.3	594.8	489.6	467.7	489.6	594.8	753.3	487.0	347.3	301.7
30°	475.3	738.9	571.1	474.4	454.3	474.4	571.1	738.9	475.3	337.9	295.0
32.5°	447.6	704.9	522.8	440.4	423.4	440.4	522.8	704.9	447.6	319.1	278.8
35°	421.6	666.9	478.5	408.6	397.4	408.6	478.5	666.9	421.6	299.0	265.9
37.5°	394.3	627.0	438.2	380.9	370.1	380.9	438.2	627.0	394.3	280.6	251.1
40°	367.0	587.7	403.7	354.5	340.2	354.5	403.7	587.7	367.0	262.7	238.1
42.5°	341.5	541.6	370.1	326.7	310.2	326.7	370.1	541.6	341.5	245.7	225.6
45°	313.3	499.5	340.2	297.6	276.6	297.6	340.2	499.5	313.3	229.6	213.0
47.5°	286.4	456.1	314.2	268.5	241.7	268.5	314.2	456.1	286.4	213.5	201.0
50°	260.9	414.0	285.1	235.9	211.7	235.9	285.1	414.0	260.9	198.7	188.4
52.5°	235.0	374.6	259.6	206.3	182.2	206.3	259.6	374.6	235.0	185.3	176.3
55°	210.4	333.4	234.1	177.7	158.9	177.7	234.1	333.4	210.4	169.6	162.5
57.5°	187.5	294.1	209.0	155.3	142.8	155.3	209.0	294.1	187.5	154.4	149.9
60°	166.5	257.8	184.4	134.7	124.9	134.7	184.4	257.8	166.5	139.6	137.4
62.5°	143.7	225.1	161.1	117.3	108.8	117.3	161.1	225.1	143.7	125.3	124.4
65°	125.3	192.0	137.0	101.6	95.8	101.6	137.0	192.0	125.3	111.0	110.6



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CATALOG NUMBER: S122DR-B290DB35-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	107.0	160.7	115.9	86.8	82.4	86.8	115.9	160.7	107.0	96.7	96.7
70°	91.3	132.5	95.8	73.4	69.8	73.4	95.8	132.5	91.3	82.4	82.8
72.5°	73.8	106.5	77.9	60.0	56.8	60.0	77.9	106.5	73.8	68.9	70.3
75°	59.1	84.1	61.3	48.3	46.1	48.3	61.3	84.1	59.1	55.1	56.8
77.5°	45.2	61.8	45.2	37.1	35.4	37.1	45.2	61.8	45.2	43.0	44.8
80°	32.2	43.4	32.2	26.4	26.0	26.4	32.2	43.4	32.2	30.9	33.1
82.5°	21.5	27.7	21.0	17.9	17.0	17.9	21.0	27.7	21.5	21.0	21.9
85°	12.1	15.2	11.6	10.3	9.8	10.3	11.6	15.2	12.1	12.1	13.0
87.5°	5.4	5.8	4.9	4.5	4.0	4.5	4.9	5.8	5.4	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: P1051148

CATALOG NUMBER: S122DR-B290DB35-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	651.2	651.2	651.2	651.2	651.2	651.2
1°	624.4	618.1	624.4	632.0	644.1	657.0
2°	597.5	589.0	597.5	604.2	629.3	657.0
3°	569.3	568.0	569.3	581.4	615.9	656.1
4°	551.0	544.7	551.0	563.9	602.9	653.9
5°	529.0	521.9	529.0	546.9	590.3	652.1
6°	510.2	500.4	510.2	531.7	578.3	649.0
7°	489.2	482.0	489.2	512.5	564.4	645.0
8°	481.1	472.6	481.1	495.5	551.4	643.2
9°	463.2	453.8	463.2	487.0	544.7	640.0
10°	452.0	440.4	452.0	472.6	530.8	635.1
11°	438.6	427.4	438.6	459.7	519.6	628.8
12°	430.6	420.7	430.6	450.7	509.8	623.0
13°	416.2	403.7	416.2	439.5	498.6	619.4
14°	405.9	395.2	405.9	429.2	486.1	613.2
15°	393.0	383.1	393.0	418.5	475.8	606.0
16°	384.5	371.5	384.5	408.6	464.1	597.5
17°	371.5	363.0	371.5	400.1	455.2	593.0
18°	362.1	354.0	362.1	387.6	444.9	585.9
19°	355.4	346.0	355.4	378.2	435.0	576.0
20°	346.0	337.9	346.0	369.2	426.1	567.1
21°	337.0	329.9	337.0	362.5	417.6	560.8
22.5°	328.5	318.7	328.5	347.8	403.3	546.9
23°	323.6	315.5	323.6	342.8	400.1	542.9
24°	317.8	308.4	317.8	334.8	390.3	532.6
25°	310.2	302.1	310.2	329.4	381.3	527.7
26°	303.5	295.8	303.5	320.9	373.3	516.9
27°	296.7	287.3	296.7	314.2	364.8	504.4
28°	290.9	282.0	290.9	309.3	355.4	495.5
29°	283.3	274.8	283.3	301.7	347.3	487.0
30°	277.9	270.3	277.9	295.0	337.9	475.3
32.5°	263.2	258.7	263.2	278.8	319.1	447.6
35°	250.6	248.4	250.6	265.9	299.0	421.6
37.5°	241.2	239.5	241.2	251.1	280.6	394.3
40°	230.5	230.9	230.5	238.1	262.7	367.0
42.5°	220.2	221.1	220.2	225.6	245.7	341.5
45°	210.4	210.4	210.4	213.0	229.6	313.3
47.5°	199.2	200.1	199.2	201.0	213.5	286.4
50°	188.0	188.9	188.0	188.4	198.7	260.9
52.5°	176.3	177.2	176.3	176.3	185.3	235.0
55°	163.8	165.6	163.8	162.5	169.6	210.4
57.5°	150.8	153.1	150.8	149.9	154.4	187.5
60°	139.2	141.4	139.2	137.4	139.6	166.5
62.5°	127.1	129.3	127.1	124.4	125.3	143.7
65°	114.6	117.3	114.6	110.6	111.0	125.3



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	101.2	103.4	101.2	96.7	96.7	107.0
70°	88.2	90.0	88.2	82.8	82.4	91.3
72.5°	74.7	76.5	74.7	70.3	68.9	73.8
75°	60.9	62.2	60.9	56.8	55.1	59.1
77.5°	48.3	48.3	48.3	44.8	43.0	45.2
80°	34.9	34.9	34.9	33.1	30.9	32.2
82.5°	23.3	23.3	23.3	21.9	21.0	21.5
85°	13.0	12.5	13.0	13.0	12.1	12.1
87.5°	4.9	5.4	4.9	5.8	5.8	5.4
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	18.97	20.49	19.33	20.80	21.12	16.28	17.81	16.65	18.12	18.43
	3H	20.19	21.55	20.56	21.88	22.24	17.61	18.98	17.99	19.30	19.67
	4H	20.58	21.86	20.98	22.21	22.59	18.07	19.35	18.47	19.70	20.08
	6H	20.82	22.01	21.23	22.37	22.77	18.37	19.56	18.78	19.92	20.31
	8H	20.88	22.01	21.31	22.40	22.80	18.45	19.58	18.88	19.97	20.37
	12H	20.91	21.99	21.34	22.37	22.80	18.49	19.57	18.92	19.95	20.38
4H	2H	19.26	20.54	19.65	20.89	21.26	17.24	18.53	17.64	18.88	19.25
	3H	20.75	21.82	21.16	22.22	22.62	18.71	19.78	19.12	20.18	20.58
	4H	21.31	22.27	21.74	22.68	23.12	19.23	20.19	19.66	20.60	21.04
	6H	21.68	22.51	22.13	22.95	23.41	19.60	20.43	20.06	20.88	21.34
	8H	21.77	22.55	22.23	22.99	23.46	19.70	20.48	20.16	20.92	21.39
	12H	21.82	22.52	22.30	23.00	23.47	19.76	20.46	20.25	20.94	21.41
8H	4H	21.45	22.23	21.91	22.67	23.14	19.63	20.41	20.10	20.86	21.33
	6H	21.91	22.56	22.41	23.05	23.52	20.08	20.73	20.58	21.22	21.69
	8H	22.06	22.64	22.57	23.15	23.63	20.23	20.80	20.74	21.31	21.80
	12H	22.16	22.67	22.67	23.17	23.73	20.33	20.84	20.84	21.33	21.90
12H	4H	21.45	22.14	21.93	22.62	23.09	19.68	20.37	20.16	20.85	21.32
	6H	21.92	22.49	22.43	23.00	23.49	20.14	20.72	20.66	21.23	21.72
	8H	22.11	22.62	22.62	23.11	23.67	20.33	20.84	20.84	21.33	21.90