

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: P1051141

Luminaire Tested: S122DR-B290DB27-4F0-XX-W2A-W

Issue Date: 7/9/2025

Test Information

Test Method: LM-79-2019
Report Number: P1051141
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-B290DB27-4F0-XX-W2A-W
Description: Define 2 Direct Recessed with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1308.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

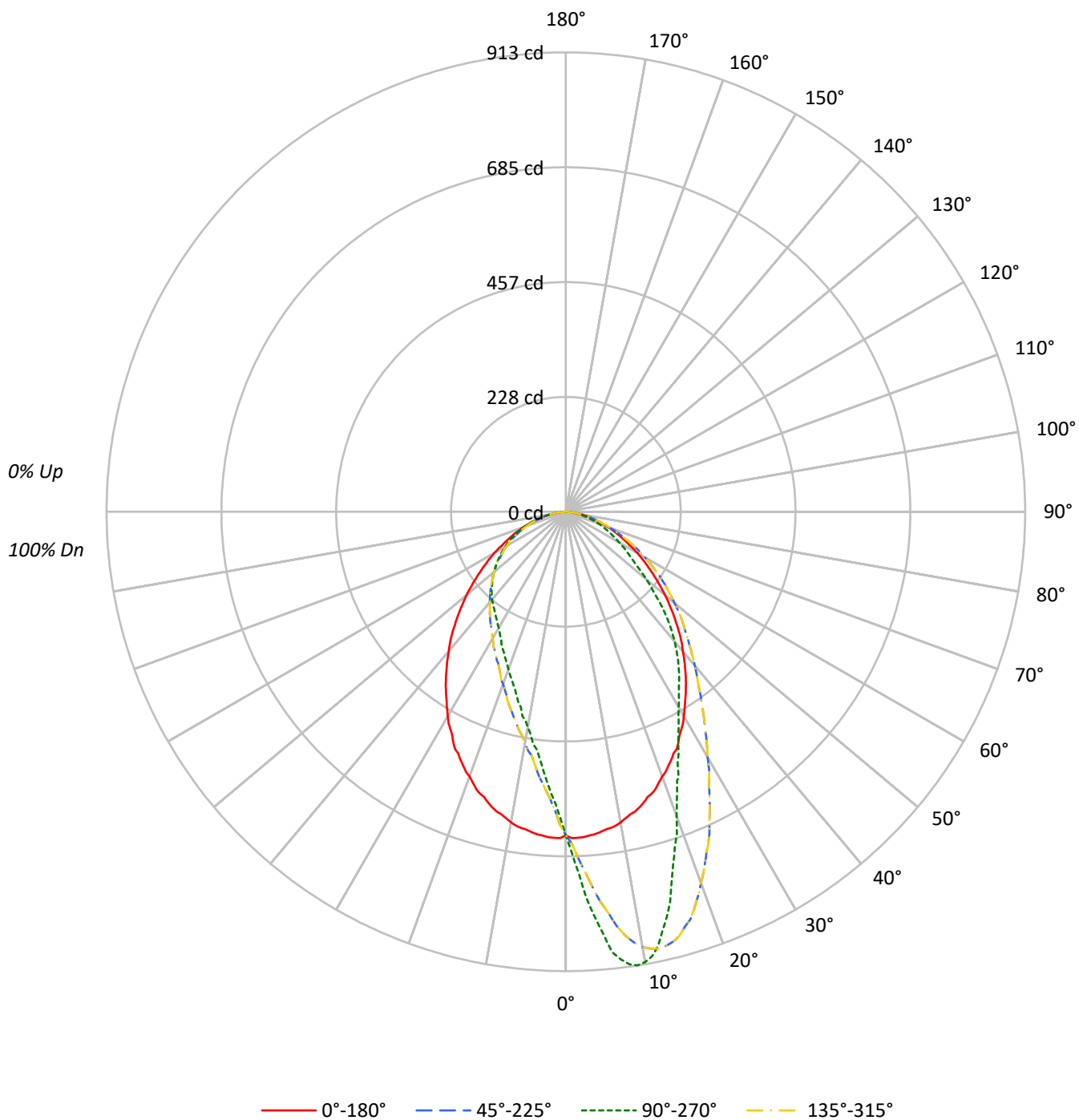
Input Watts (W): 13
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10
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°	10177	10177	10177	10177
5°	10228	13346	10228	8186
10°	10078	14608	10078	6989
15°	9803	13141	9803	6198
20°	9430	10843	9430	5620
25°	9098	9267	9098	5208
30°	8576	8198	8576	4878
35°	8043	7581	8043	4738
40°	7486	6939	7486	4711
45°	6924	6114	6924	4650
50°	6344	5147	6344	4593
55°	5732	4327	5732	4512
60°	5205	3904	5205	4420
65°	4633	3543	4633	4337
70°	4170	3189	4170	4110
75°	3566	2783	3566	3755
80°	2899	2334	2899	3145
85°	2161	1762	2161	2252

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 11039 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.3	4.8
10°-20°	173.6	13.3
20°-30°	227.7	17.4
30°-40°	240.7	18.4
40°-50°	223.5	17.1
50°-60°	178.8	13.7
60°-70°	122.3	9.4
70°-80°	63.1	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°	464.6	35.5
0°-40°	705.3	53.9
0°-60°	1107.6	84.7
0°-90°	1308.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1308.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	643	643	643	643	643	
5°	644	840	644	515	644	61
15°	598	802	598	378	598	168
25°	521	531	521	298	521	238
35°	416	392	416	245	416	260
45°	309	273	309	208	309	239
55°	208	157	208	164	208	187
65°	124	95	124	116	124	123
75°	58	46	58	61	58	62
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°	642.9	642.9	642.9	642.9	642.9	642.9	642.9	642.9	642.9	642.9	642.9
1°	648.6	660.1	659.2	674.7	678.2	674.7	659.2	660.1	648.6	635.8	623.9
2°	648.6	674.7	686.6	710.9	718.0	710.9	686.6	674.7	648.6	621.2	596.5
3°	647.7	687.5	715.8	749.3	766.1	749.3	715.8	687.5	647.7	608.0	573.9
4°	645.5	700.7	745.4	790.0	805.0	790.0	745.4	700.7	645.5	595.1	556.7
5°	643.7	717.5	776.3	830.2	839.9	830.2	776.3	717.5	643.7	582.8	539.9
6°	640.7	734.3	801.0	860.2	880.1	860.2	801.0	734.3	640.7	570.8	524.9
7°	636.7	745.4	828.9	884.1	896.5	884.1	828.9	745.4	636.7	557.1	505.9
8°	634.9	763.5	851.0	903.1	908.0	903.1	851.0	763.5	634.9	544.3	489.1
9°	631.8	771.0	866.9	908.8	912.8	908.8	866.9	771.0	631.8	537.7	480.7
10°	627.0	782.5	878.4	910.6	908.8	910.6	878.4	782.5	627.0	524.0	466.6
11°	620.8	795.7	884.5	904.0	899.6	904.0	884.5	795.7	620.8	513.0	453.8
12°	615.0	805.0	887.2	891.6	881.9	891.6	887.2	805.0	615.0	503.2	444.9
13°	611.5	809.0	885.4	876.1	854.5	876.1	885.4	809.0	611.5	492.2	433.9
14°	605.3	817.8	880.6	852.3	829.8	852.3	880.6	817.8	605.3	479.8	423.7
15°	598.2	820.5	872.6	828.0	801.9	828.0	872.6	820.5	598.2	469.7	413.1
16°	589.8	823.6	858.0	797.9	763.0	797.9	858.0	823.6	589.8	458.2	403.4
17°	585.4	825.3	847.0	768.3	730.8	768.3	847.0	825.3	585.4	449.3	395.0
18°	578.4	824.0	827.1	743.6	701.2	743.6	827.1	824.0	578.4	439.2	382.6
19°	568.6	820.9	807.2	712.2	677.8	712.2	807.2	820.9	568.6	429.5	373.3
20°	559.8	819.6	785.1	683.5	643.7	683.5	785.1	819.6	559.8	420.6	364.5
21°	553.6	815.2	764.8	656.1	615.5	656.1	764.8	815.2	553.6	412.2	357.9
22.5°	539.9	806.8	730.8	614.1	578.4	614.1	730.8	806.8	539.9	398.1	343.3
23°	535.9	804.1	722.0	604.4	573.9	604.4	722.0	804.1	535.9	395.0	338.4
24°	525.8	795.7	701.2	578.4	546.1	578.4	701.2	795.7	525.8	385.3	330.5
25°	520.9	787.8	675.6	557.1	530.6	557.1	675.6	787.8	520.9	376.4	325.2
26°	510.3	776.3	652.6	539.5	509.0	539.5	652.6	776.3	510.3	368.5	316.8
27°	497.9	767.9	628.7	518.7	493.1	518.7	628.7	767.9	497.9	360.1	310.2
28°	489.1	754.2	605.7	502.4	477.6	502.4	605.7	754.2	489.1	350.8	305.3
29°	480.7	743.6	587.2	483.4	461.7	483.4	587.2	743.6	480.7	342.9	297.8
30°	469.2	729.5	563.8	468.3	448.5	468.3	563.8	729.5	469.2	333.6	291.2
32.5°	441.8	695.9	516.1	434.8	418.0	434.8	516.1	695.9	441.8	315.0	275.3
35°	416.2	658.3	472.3	403.4	392.3	403.4	472.3	658.3	416.2	295.1	262.4
37.5°	389.3	619.0	432.6	376.0	365.4	376.0	432.6	619.0	389.3	277.0	247.9
40°	362.3	580.1	398.5	349.9	335.8	349.9	398.5	580.1	362.3	259.4	235.1
42.5°	337.1	534.6	365.4	322.5	306.2	322.5	365.4	534.6	337.1	242.6	222.7
45°	309.3	493.1	335.8	293.8	273.1	293.8	335.8	493.1	309.3	226.7	210.3
47.5°	282.8	450.2	310.2	265.1	238.6	265.1	310.2	450.2	282.8	210.8	198.4
50°	257.6	408.7	281.4	232.8	209.0	232.8	281.4	408.7	257.6	196.2	186.0
52.5°	232.0	369.8	256.3	203.7	179.8	203.7	256.3	369.8	232.0	182.9	174.1
55°	207.7	329.2	231.1	175.4	156.8	175.4	231.1	329.2	207.7	167.5	160.4
57.5°	185.1	290.3	206.3	153.3	140.9	153.3	206.3	290.3	185.1	152.4	148.0
60°	164.4	254.5	182.0	133.0	123.3	133.0	182.0	254.5	164.4	137.9	135.6
62.5°	141.8	222.2	159.1	115.8	107.4	115.8	159.1	222.2	141.8	123.7	122.8
65°	123.7	189.5	135.2	100.3	94.6	100.3	135.2	189.5	123.7	109.6	109.1



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CATALOG NUMBER: S122DR-B290DB27-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	105.6	158.6	114.4	85.7	81.3	85.7	114.4	158.6	105.6	95.4	95.4
70°	90.1	130.8	94.6	72.5	68.9	72.5	94.6	130.8	90.1	81.3	81.7
72.5°	72.9	105.2	76.9	59.2	56.1	59.2	76.9	105.2	72.9	68.0	69.4
75°	58.3	83.1	60.5	47.7	45.5	47.7	60.5	83.1	58.3	54.3	56.1
77.5°	44.6	61.0	44.6	36.7	34.9	36.7	44.6	61.0	44.6	42.4	44.2
80°	31.8	42.9	31.8	26.1	25.6	26.1	31.8	42.9	31.8	30.5	32.7
82.5°	21.2	27.4	20.8	17.7	16.8	17.7	20.8	27.4	21.2	20.8	21.6
85°	11.9	15.0	11.5	10.2	9.7	10.2	11.5	15.0	11.9	11.9	12.8
87.5°	5.3	5.7	4.9	4.4	4.0	4.4	4.9	5.7	5.3	5.7	5.7
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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CATALOG NUMBER: S122DR-B290DB27-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	642.9	642.9	642.9	642.9	642.9	642.9
1°	616.4	610.2	616.4	623.9	635.8	648.6
2°	589.8	581.4	589.8	596.5	621.2	648.6
3°	562.0	560.7	562.0	573.9	608.0	647.7
4°	543.9	537.7	543.9	556.7	595.1	645.5
5°	522.2	515.2	522.2	539.9	582.8	643.7
6°	503.7	494.0	503.7	524.9	570.8	640.7
7°	482.9	475.9	482.9	505.9	557.1	636.7
8°	475.0	466.6	475.0	489.1	544.3	634.9
9°	457.3	448.0	457.3	480.7	537.7	631.8
10°	446.2	434.8	446.2	466.6	524.0	627.0
11°	433.0	421.9	433.0	453.8	513.0	620.8
12°	425.0	415.3	425.0	444.9	503.2	615.0
13°	410.9	398.5	410.9	433.9	492.2	611.5
14°	400.7	390.1	400.7	423.7	479.8	605.3
15°	387.9	378.2	387.9	413.1	469.7	598.2
16°	379.5	366.7	379.5	403.4	458.2	589.8
17°	366.7	358.3	366.7	395.0	449.3	585.4
18°	357.4	349.5	357.4	382.6	439.2	578.4
19°	350.8	341.5	350.8	373.3	429.5	568.6
20°	341.5	333.6	341.5	364.5	420.6	559.8
21°	332.7	325.6	332.7	357.9	412.2	553.6
22.5°	324.3	314.6	324.3	343.3	398.1	539.9
23°	319.4	311.5	319.4	338.4	395.0	535.9
24°	313.7	304.4	313.7	330.5	385.3	525.8
25°	306.2	298.2	306.2	325.2	376.4	520.9
26°	299.6	292.0	299.6	316.8	368.5	510.3
27°	292.9	283.7	292.9	310.2	360.1	497.9
28°	287.2	278.4	287.2	305.3	350.8	489.1
29°	279.7	271.3	279.7	297.8	342.9	480.7
30°	274.4	266.9	274.4	291.2	333.6	469.2
32.5°	259.8	255.4	259.8	275.3	315.0	441.8
35°	247.4	245.2	247.4	262.4	295.1	416.2
37.5°	238.1	236.4	238.1	247.9	277.0	389.3
40°	227.5	228.0	227.5	235.1	259.4	362.3
42.5°	217.4	218.3	217.4	222.7	242.6	337.1
45°	207.7	207.7	207.7	210.3	226.7	309.3
47.5°	196.6	197.5	196.6	198.4	210.8	282.8
50°	185.6	186.5	185.6	186.0	196.2	257.6
52.5°	174.1	175.0	174.1	174.1	182.9	232.0
55°	161.7	163.5	161.7	160.4	167.5	207.7
57.5°	148.9	151.1	148.9	148.0	152.4	185.1
60°	137.4	139.6	137.4	135.6	137.9	164.4
62.5°	125.5	127.7	125.5	122.8	123.7	141.8
65°	113.1	115.8	113.1	109.1	109.6	123.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	99.9	102.1	99.9	95.4	95.4	105.6
70°	87.0	88.8	87.0	81.7	81.3	90.1
72.5°	73.8	75.6	73.8	69.4	68.0	72.9
75°	60.1	61.4	60.1	56.1	54.3	58.3
77.5°	47.7	47.7	47.7	44.2	42.4	44.6
80°	34.5	34.5	34.5	32.7	30.5	31.8
82.5°	23.0	23.0	23.0	21.6	20.8	21.2
85°	12.8	12.4	12.8	12.8	11.9	11.9
87.5°	4.9	5.3	4.9	5.7	5.7	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	18.92	20.45	19.29	20.76	21.07	16.24	17.76	16.60	18.07	18.39
	3H	20.14	21.51	20.52	21.83	22.20	17.56	18.93	17.94	19.26	19.62
	4H	20.53	21.82	20.93	22.16	22.54	18.02	19.30	18.42	19.65	20.03
	6H	20.78	21.96	21.19	22.33	22.72	18.33	19.51	18.74	19.88	20.27
	8H	20.83	21.96	21.26	22.35	22.75	18.41	19.53	18.83	19.92	20.32
	12H	20.86	21.94	21.29	22.32	22.75	18.45	19.53	18.88	19.91	20.34
4H	2H	19.21	20.49	19.61	20.84	21.22	17.20	18.48	17.60	18.83	19.21
	3H	20.70	21.77	21.12	22.17	22.57	18.67	19.73	19.08	20.13	20.53
	4H	21.26	22.22	21.70	22.64	23.08	19.18	20.14	19.62	20.56	21.00
	6H	21.63	22.47	22.09	22.91	23.37	19.56	20.39	20.01	20.83	21.29
	8H	21.72	22.50	22.19	22.95	23.41	19.66	20.44	20.12	20.88	21.35
	12H	21.78	22.47	22.26	22.95	23.42	19.72	20.42	20.20	20.89	21.36
8H	4H	21.40	22.18	21.87	22.63	23.09	19.59	20.37	20.05	20.81	21.28
	6H	21.87	22.51	22.36	23.00	23.48	20.04	20.68	20.53	21.17	21.65
	8H	22.01	22.59	22.53	23.10	23.59	20.18	20.76	20.69	21.27	21.76
	12H	22.12	22.63	22.63	23.12	23.68	20.29	20.80	20.80	21.29	21.85
12H	4H	21.40	22.10	21.88	22.58	23.05	19.63	20.33	20.12	20.81	21.28
	6H	21.87	22.45	22.38	22.96	23.45	20.10	20.68	20.61	21.19	21.67
	8H	22.06	22.57	22.57	23.06	23.63	20.29	20.80	20.80	21.29	21.85