

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: P1051158

Luminaire Tested: S122DR-B485DB35-4F0-XX-W2A-W

Issue Date: 7/9/2025

Test Information

Test Method: LM-79-2019
Report Number: P1051158
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-B485DB35-4F0-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: 2228.0 lumens
Efficiency: N/A
Efficacy: 92.8 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

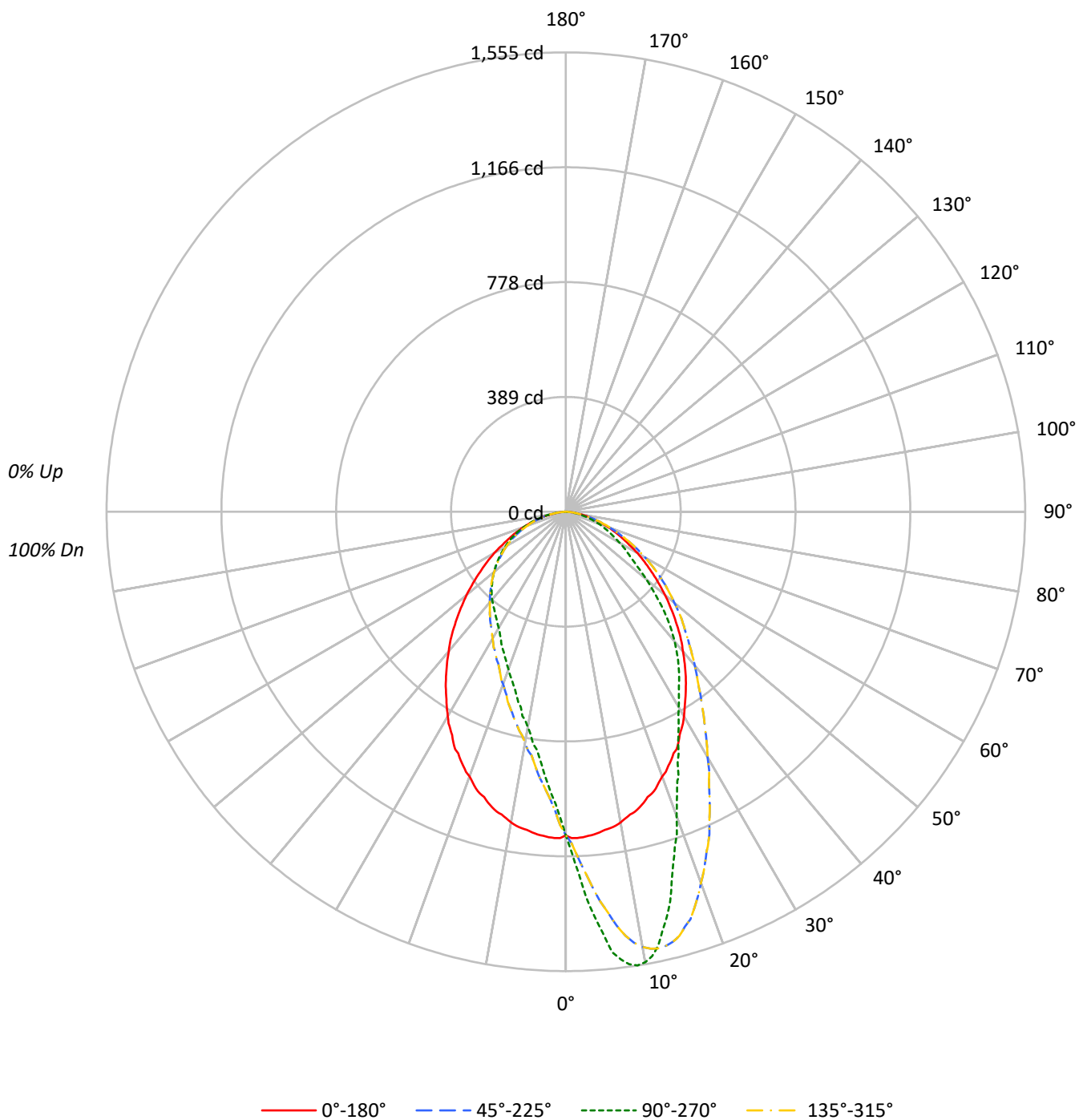
Input Watts (W): 24
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	17333	17333	17333	17333
5°	17423	22733	17423	13943
10°	17165	24883	17165	11904
15°	16699	22386	16699	10557
20°	16062	18471	16062	9571
25°	15497	15787	15497	8873
30°	14610	13963	14610	8309
35°	13699	12914	13699	8072
40°	12752	11820	12752	8024
45°	11793	10412	11793	7918
50°	10806	8767	10806	7821
55°	9761	7374	9761	7686
60°	8864	6648	8864	7528
65°	7892	6034	7892	7386
70°	7104	5433	7104	7002
75°	6073	4740	6073	6397
80°	4941	3984	4941	5351
85°	3687	3015	3687	3832

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 18802 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.8	4.8
10°-20°	295.8	13.3
20°-30°	387.9	17.4
30°-40°	409.9	18.4
40°-50°	380.6	17.1
50°-60°	304.6	13.7
60°-70°	208.4	9.4
70°-80°	107.5	4.8
80°-90°	25.5	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°	791.4	35.5
0°-40°	1201.3	53.9
0°-60°	1886.6	84.7
0°-90°	2228.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2228.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1095	1095	1095	1095	1095	
5°	1096	1431	1096	878	1096	104
15°	1019	1366	1019	644	1019	286
25°	887	904	887	508	887	406
35°	709	668	709	418	709	443
45°	527	465	527	354	527	407
55°	354	267	354	278	354	318
65°	211	161	211	197	211	210
75°	99	78	99	105	99	106
85°	20	17	20	21	20	25
90°	0	0	0	0	0	

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CATALOG NUMBER: S122DR-B485DB35-4F0-XX-W2A-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1095.0	1095.0	1095.0	1095.0	1095.0	1095.0	1095.0	1095.0	1095.0	1095.0	1095.0
1°	1104.8	1124.4	1122.9	1149.2	1155.2	1149.2	1122.9	1124.4	1104.8	1083.0	1062.7
2°	1104.8	1149.2	1169.5	1210.9	1223.0	1210.9	1169.5	1149.2	1104.8	1058.2	1016.0
3°	1103.3	1171.0	1219.2	1276.4	1305.0	1276.4	1219.2	1171.0	1103.3	1035.6	977.6
4°	1099.5	1193.6	1269.6	1345.6	1371.2	1345.6	1269.6	1193.6	1099.5	1013.7	948.3
5°	1096.5	1222.2	1322.3	1414.1	1430.7	1414.1	1322.3	1222.2	1096.5	992.7	919.7
6°	1091.3	1250.8	1364.5	1465.3	1499.2	1465.3	1364.5	1250.8	1091.3	972.4	894.1
7°	1084.5	1269.6	1411.9	1505.9	1527.0	1505.9	1411.9	1269.6	1084.5	949.0	861.7
8°	1081.5	1300.5	1449.5	1538.3	1546.6	1538.3	1449.5	1300.5	1081.5	927.2	833.1
9°	1076.2	1313.3	1476.6	1548.1	1554.9	1548.1	1476.6	1313.3	1076.2	915.9	818.8
10°	1067.9	1332.9	1496.2	1551.1	1548.1	1551.1	1496.2	1332.9	1067.9	892.6	794.7
11°	1057.4	1355.4	1506.7	1539.8	1532.3	1539.8	1506.7	1355.4	1057.4	873.8	772.9
12°	1047.6	1371.2	1511.2	1518.7	1502.2	1518.7	1511.2	1371.2	1047.6	857.2	757.9
13°	1041.6	1378.0	1508.2	1492.4	1455.5	1492.4	1508.2	1378.0	1041.6	838.4	739.1
14°	1031.1	1393.1	1499.9	1451.8	1413.4	1451.8	1499.9	1393.1	1031.1	817.3	721.7
15°	1019.0	1397.6	1486.4	1410.4	1366.0	1410.4	1486.4	1397.6	1019.0	800.0	703.7
16°	1004.7	1402.8	1461.5	1359.2	1299.7	1359.2	1461.5	1402.8	1004.7	780.4	687.1
17°	997.2	1405.9	1442.7	1308.8	1244.8	1308.8	1442.7	1405.9	997.2	765.4	672.8
18°	985.2	1403.6	1408.9	1266.6	1194.4	1266.6	1408.9	1403.6	985.2	748.1	651.7
19°	968.6	1398.3	1375.0	1213.2	1154.5	1213.2	1375.0	1398.3	968.6	731.5	635.9
20°	953.5	1396.1	1337.4	1164.3	1096.5	1164.3	1337.4	1396.1	953.5	716.5	620.9
21°	943.0	1388.5	1302.7	1117.6	1048.4	1117.6	1302.7	1388.5	943.0	702.2	609.6
22.5°	919.7	1374.2	1244.8	1046.1	985.2	1046.1	1244.8	1374.2	919.7	678.1	584.8
23°	912.9	1369.7	1229.7	1029.6	977.6	1029.6	1229.7	1369.7	912.9	672.8	576.5
24°	895.6	1355.4	1194.4	985.2	930.2	985.2	1194.4	1355.4	895.6	656.3	562.9
25°	887.3	1341.9	1150.7	949.0	903.9	949.0	1150.7	1341.9	887.3	641.2	553.9
26°	869.3	1322.3	1111.6	918.9	867.0	918.9	1111.6	1322.3	869.3	627.7	539.6
27°	848.2	1308.0	1070.9	883.5	839.9	883.5	1070.9	1308.0	848.2	613.4	528.3
28°	833.1	1284.7	1031.8	855.7	813.6	855.7	1031.8	1284.7	833.1	597.6	520.0
29°	818.8	1266.6	1000.2	823.3	786.5	823.3	1000.2	1266.6	818.8	584.0	507.3
30°	799.3	1242.5	960.3	797.8	763.9	797.8	960.3	1242.5	799.3	568.2	496.0
32.5°	752.6	1185.3	879.0	740.6	712.0	740.6	879.0	1185.3	752.6	536.6	468.9
35°	708.9	1121.4	804.5	687.1	668.3	687.1	804.5	1121.4	708.9	502.7	447.0
37.5°	663.0	1054.4	736.8	640.5	622.4	640.5	736.8	1054.4	663.0	471.9	422.2
40°	617.1	988.2	678.8	596.1	572.0	596.1	678.8	988.2	617.1	441.8	400.4
42.5°	574.2	910.6	622.4	549.4	521.6	549.4	622.4	910.6	574.2	413.2	379.3
45°	526.8	839.9	572.0	500.5	465.1	500.5	572.0	839.9	526.8	386.1	358.2
47.5°	481.7	766.9	528.3	451.6	406.4	451.6	528.3	766.9	481.7	359.0	337.9
50°	438.8	696.2	479.4	396.6	356.0	396.6	479.4	696.2	438.8	334.2	316.8
52.5°	395.1	629.9	436.5	346.9	306.3	346.9	436.5	629.9	395.1	311.6	296.5
55°	353.7	560.7	393.6	298.8	267.2	298.8	393.6	560.7	353.7	285.2	273.2
57.5°	315.3	494.5	351.5	261.2	240.1	261.2	351.5	494.5	315.3	259.6	252.1
60°	280.0	433.5	310.1	226.5	210.0	226.5	310.1	433.5	280.0	234.8	231.0
62.5°	241.6	378.6	270.9	197.2	182.9	197.2	270.9	378.6	241.6	210.7	209.2
65°	210.7	322.9	230.3	170.8	161.1	170.8	230.3	322.9	210.7	186.6	185.9



TEST NUMBER: P1051158

CATALOG NUMBER: S122DR-B485DB35-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	179.9	270.2	194.9	146.0	138.5	146.0	194.9	270.2	179.9	162.6	162.6
70°	153.5	222.8	161.1	123.4	117.4	123.4	161.1	222.8	153.5	138.5	139.2
72.5°	124.2	179.1	131.0	100.8	95.6	100.8	131.0	179.1	124.2	115.9	118.2
75°	99.3	141.5	103.1	81.3	77.5	81.3	103.1	141.5	99.3	92.6	95.6
77.5°	76.0	103.9	76.0	62.5	59.5	62.5	76.0	103.9	76.0	72.2	75.3
80°	54.2	73.0	54.2	44.4	43.7	44.4	54.2	73.0	54.2	51.9	55.7
82.5°	36.1	46.7	35.4	30.1	28.6	30.1	35.4	46.7	36.1	35.4	36.9
85°	20.3	25.6	19.6	17.3	16.6	17.3	19.6	25.6	20.3	20.3	21.8
87.5°	9.0	9.8	8.3	7.5	6.8	7.5	8.3	9.8	9.0	9.8	9.8
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: P1051158

CATALOG NUMBER: S122DR-B485DB35-4F0-XX-W2A-W

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1095.0	1095.0	1095.0	1095.0	1095.0	1095.0
1°	1049.9	1039.3	1049.9	1062.7	1083.0	1104.8
2°	1004.7	990.4	1004.7	1016.0	1058.2	1104.8
3°	957.3	955.0	957.3	977.6	1035.6	1103.3
4°	926.4	915.9	926.4	948.3	1013.7	1099.5
5°	889.6	877.5	889.6	919.7	992.7	1096.5
6°	858.0	841.4	858.0	894.1	972.4	1091.3
7°	822.6	810.5	822.6	861.7	949.0	1084.5
8°	809.0	794.7	809.0	833.1	927.2	1081.5
9°	778.9	763.1	778.9	818.8	915.9	1076.2
10°	760.1	740.6	760.1	794.7	892.6	1067.9
11°	737.5	718.7	737.5	772.9	873.8	1057.4
12°	724.0	707.4	724.0	757.9	857.2	1047.6
13°	699.9	678.8	699.9	739.1	838.4	1041.6
14°	682.6	664.5	682.6	721.7	817.3	1031.1
15°	660.8	644.2	660.8	703.7	800.0	1019.0
16°	646.5	624.7	646.5	687.1	780.4	1004.7
17°	624.7	610.4	624.7	672.8	765.4	997.2
18°	608.9	595.3	608.9	651.7	748.1	985.2
19°	597.6	581.8	597.6	635.9	731.5	968.6
20°	581.8	568.2	581.8	620.9	716.5	953.5
21°	566.7	554.7	566.7	609.6	702.2	943.0
22.5°	552.4	535.8	552.4	584.8	678.1	919.7
23°	544.1	530.6	544.1	576.5	672.8	912.9
24°	534.3	518.5	534.3	562.9	656.3	895.6
25°	521.6	508.0	521.6	553.9	641.2	887.3
26°	510.3	497.5	510.3	539.6	627.7	869.3
27°	499.0	483.2	499.0	528.3	613.4	848.2
28°	489.2	474.1	489.2	520.0	597.6	833.1
29°	476.4	462.1	476.4	507.3	584.0	818.8
30°	467.4	454.6	467.4	496.0	568.2	799.3
32.5°	442.5	435.0	442.5	468.9	536.6	752.6
35°	421.5	417.7	421.5	447.0	502.7	708.9
37.5°	405.7	402.6	405.7	422.2	471.9	663.0
40°	387.6	388.3	387.6	400.4	441.8	617.1
42.5°	370.3	371.8	370.3	379.3	413.2	574.2
45°	353.7	353.7	353.7	358.2	386.1	526.8
47.5°	334.9	336.4	334.9	337.9	359.0	481.7
50°	316.1	317.6	316.1	316.8	334.2	438.8
52.5°	296.5	298.0	296.5	296.5	311.6	395.1
55°	275.5	278.5	275.5	273.2	285.2	353.7
57.5°	253.6	257.4	253.6	252.1	259.6	315.3
60°	234.1	237.8	234.1	231.0	234.8	280.0
62.5°	213.7	217.5	213.7	209.2	210.7	241.6
65°	192.7	197.2	192.7	185.9	186.6	210.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	170.1	173.9	170.1	162.6	162.6	179.9
70°	148.3	151.3	148.3	139.2	138.5	153.5
72.5°	125.7	128.7	125.7	118.2	115.9	124.2
75°	102.4	104.6	102.4	95.6	92.6	99.3
77.5°	81.3	81.3	81.3	75.3	72.2	76.0
80°	58.7	58.7	58.7	55.7	51.9	54.2
82.5°	39.1	39.1	39.1	36.9	35.4	36.1
85°	21.8	21.1	21.8	21.8	20.3	20.3
87.5°	8.3	9.0	8.3	9.8	9.8	9.0
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	20.77	22.30	21.14	22.61	22.92	18.09	19.61	18.45	19.93	20.24
	3H	21.99	23.36	22.37	23.68	24.05	19.42	20.78	19.79	21.11	21.47
	4H	22.39	23.67	22.78	24.02	24.39	19.87	21.16	20.27	21.50	21.88
	6H	22.63	23.81	23.04	24.18	24.57	20.18	21.36	20.59	21.73	22.12
	8H	22.69	23.81	23.11	24.20	24.60	20.26	21.39	20.68	21.78	22.18
	12H	22.71	23.79	23.14	24.17	24.60	20.30	21.38	20.73	21.76	22.19
4H	2H	21.06	22.34	21.46	22.69	23.07	19.05	20.33	19.45	20.68	21.06
	3H	22.56	23.62	22.97	24.02	24.42	20.52	21.58	20.93	21.98	22.38
	4H	23.11	24.07	23.55	24.49	24.93	21.03	21.99	21.47	22.41	22.85
	6H	23.48	24.32	23.94	24.76	25.22	21.41	22.24	21.86	22.68	23.14
	8H	23.57	24.35	24.04	24.80	25.26	21.51	22.29	21.97	22.73	23.20
	12H	23.63	24.32	24.11	24.80	25.27	21.57	22.27	22.05	22.75	23.22
8H	4H	23.25	24.03	23.72	24.48	24.95	21.44	22.22	21.90	22.66	23.13
	6H	23.72	24.36	24.21	24.85	25.33	21.89	22.53	22.39	23.02	23.50
	8H	23.87	24.44	24.38	24.95	25.44	22.03	22.61	22.55	23.12	23.61
	12H	23.97	24.48	24.48	24.97	25.54	22.14	22.65	22.65	23.14	23.70
12H	4H	23.25	23.95	23.73	24.43	24.90	21.48	22.18	21.97	22.66	23.13
	6H	23.72	24.30	24.24	24.81	25.30	21.95	22.53	22.46	23.04	23.53
	8H	23.91	24.42	24.42	24.91	25.48	22.14	22.65	22.65	23.14	23.71