

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: P1051180

Luminaire Tested: S122DR-B865DB50-4F0-XX-W2A-W

Issue Date: 7/9/2025

Test Information

Test Method: LM-79-2019
Report Number: P1051180
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-B865DB50-4F0-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: 3784.0 lumens
Efficiency: N/A
Efficacy: 80.9 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

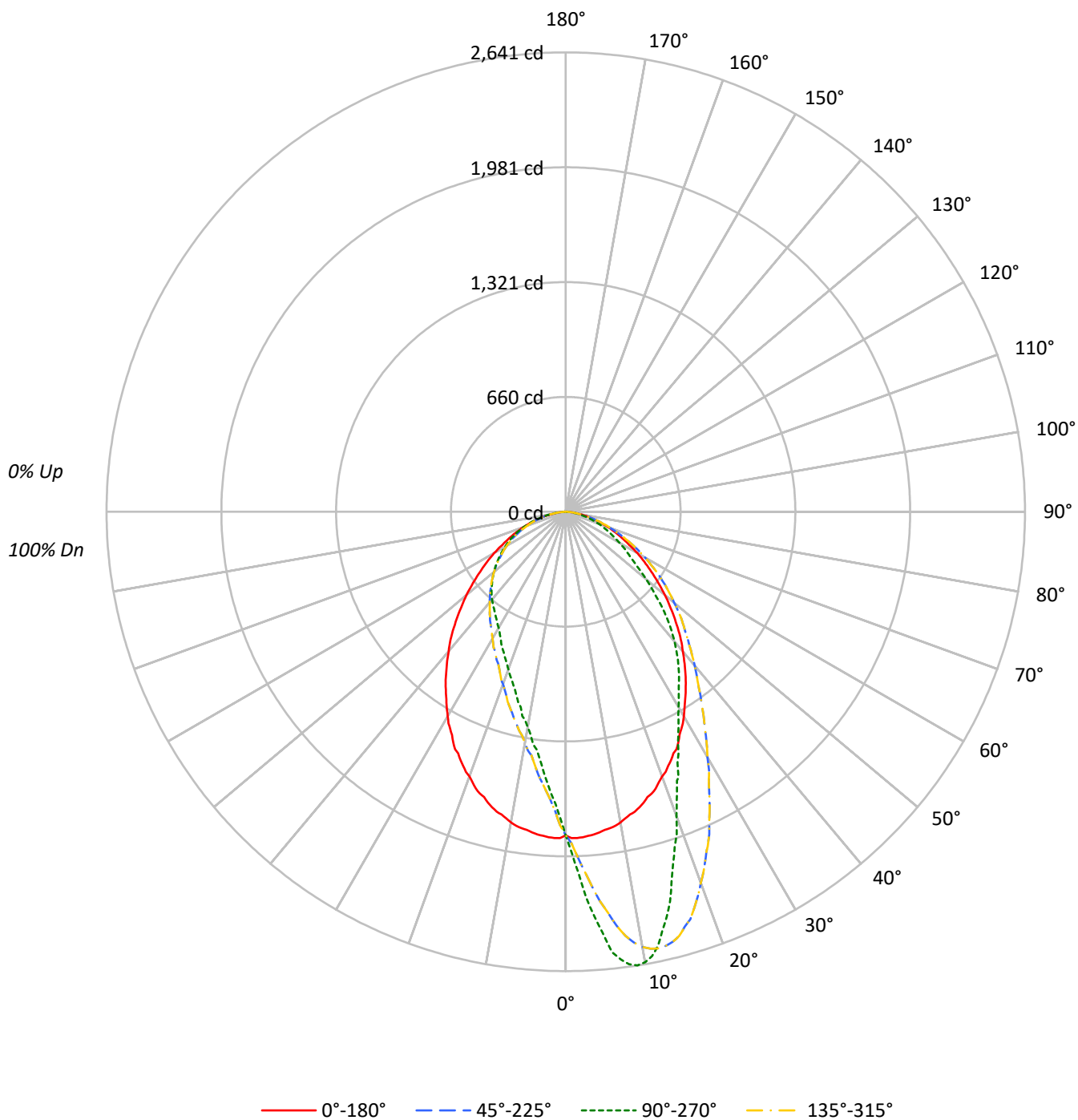
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	29439	29439	29439	29439
5°	29591	38611	29591	23682
10°	29154	42262	29154	20216
15°	28362	38018	28362	17930
20°	27281	31371	27281	16256
25°	26321	26812	26321	15069
30°	24811	23714	24811	14111
35°	23268	21933	23268	13708
40°	21658	20073	21658	13630
45°	20029	17683	20029	13450
50°	18351	14889	18351	13283
55°	16581	12524	16581	13051
60°	15054	11289	15054	12787
65°	13405	10244	13405	12544
70°	12070	9229	12070	11890
75°	10318	8055	10318	10868
80°	8386	6755	8386	9088
85°	6266	5104	6266	6502

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 31934 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.0	4.8
10°-20°	502.3	13.3
20°-30°	658.8	17.4
30°-40°	696.2	18.4
40°-50°	646.4	17.1
50°-60°	517.4	13.7
60°-70°	353.9	9.4
70°-80°	182.6	4.8
80°-90°	43.4	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°	1344.1	35.5
0°-40°	2040.3	53.9
0°-60°	3204.2	84.7
0°-90°	3784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3784.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1860	1860	1860	1860	1860	
5°	1862	2430	1862	1490	1862	176
15°	1731	2320	1731	1094	1731	486
25°	1507	1535	1507	863	1507	689
35°	1204	1135	1204	709	1204	752
45°	895	790	895	601	895	691
55°	601	454	601	473	601	540
65°	358	274	358	335	358	356
75°	169	132	169	178	169	181
85°	34	28	34	36	34	43
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°	1859.8	1859.8	1859.8	1859.8	1859.8	1859.8	1859.8	1859.8	1859.8	1859.8	1859.8
1°	1876.4	1909.6	1907.1	1951.8	1962.0	1951.8	1907.1	1909.6	1876.4	1839.3	1804.8
2°	1876.4	1951.8	1986.3	2056.6	2077.1	2056.6	1986.3	1951.8	1876.4	1797.1	1725.6
3°	1873.8	1988.9	2070.7	2167.8	2216.4	2167.8	2070.7	1988.9	1873.8	1758.8	1660.4
4°	1867.5	2027.2	2156.3	2285.4	2328.9	2285.4	2156.3	2027.2	1867.5	1721.7	1610.5
5°	1862.3	2075.8	2245.8	2401.7	2429.9	2401.7	2245.8	2075.8	1862.3	1685.9	1562.0
6°	1853.4	2124.4	2317.4	2488.7	2546.2	2488.7	2317.4	2124.4	1853.4	1651.4	1518.5
7°	1841.9	2156.3	2397.9	2557.7	2593.5	2557.7	2397.9	2156.3	1841.9	1611.8	1463.5
8°	1836.8	2208.7	2461.8	2612.6	2626.7	2612.6	2461.8	2208.7	1836.8	1574.7	1415.0
9°	1827.8	2230.5	2507.8	2629.3	2640.8	2629.3	2507.8	2230.5	1827.8	1555.6	1390.7
10°	1813.8	2263.7	2541.1	2634.4	2629.3	2634.4	2541.1	2263.7	1813.8	1515.9	1349.8
11°	1795.9	2302.0	2559.0	2615.2	2602.4	2615.2	2559.0	2302.0	1795.9	1484.0	1312.7
12°	1779.3	2328.9	2566.6	2579.4	2551.3	2579.4	2566.6	2328.9	1779.3	1455.9	1287.1
13°	1769.0	2340.4	2561.5	2534.7	2472.0	2534.7	2561.5	2340.4	1769.0	1423.9	1255.2
14°	1751.1	2365.9	2547.5	2465.6	2400.5	2465.6	2547.5	2365.9	1751.1	1388.1	1225.8
15°	1730.7	2373.6	2524.4	2395.3	2319.9	2395.3	2524.4	2373.6	1730.7	1358.7	1195.1
16°	1706.4	2382.6	2482.3	2308.4	2207.5	2308.4	2482.3	2382.6	1706.4	1325.5	1167.0
17°	1693.6	2387.7	2450.3	2222.8	2114.1	2222.8	2450.3	2387.7	1693.6	1299.9	1142.7
18°	1673.2	2383.8	2392.8	2151.2	2028.5	2151.2	2392.8	2383.8	1673.2	1270.5	1106.9
19°	1645.0	2374.9	2335.3	2060.5	1960.8	2060.5	2335.3	2374.9	1645.0	1242.4	1080.1
20°	1619.5	2371.1	2271.4	1977.4	1862.3	1977.4	2271.4	2371.1	1619.5	1216.8	1054.5
21°	1601.6	2358.3	2212.6	1898.1	1780.5	1898.1	2212.6	2358.3	1601.6	1192.6	1035.3
22.5°	1562.0	2334.0	2114.1	1776.7	1673.2	1776.7	2114.1	2334.0	1562.0	1151.7	993.2
23°	1550.5	2326.3	2088.6	1748.6	1660.4	1748.6	2088.6	2326.3	1550.5	1142.7	979.1
24°	1521.1	2302.0	2028.5	1673.2	1579.9	1673.2	2028.5	2302.0	1521.1	1114.6	956.1
25°	1507.0	2279.0	1954.4	1611.8	1535.1	1611.8	1954.4	2279.0	1507.0	1089.0	940.8
26°	1476.3	2245.8	1887.9	1560.7	1472.5	1560.7	1887.9	2245.8	1476.3	1066.0	916.5
27°	1440.5	2221.5	1818.9	1500.6	1426.5	1500.6	1818.9	2221.5	1440.5	1041.7	897.3
28°	1415.0	2181.9	1752.4	1453.3	1381.7	1453.3	1752.4	2181.9	1415.0	1014.9	883.2
29°	1390.7	2151.2	1698.7	1398.4	1335.7	1398.4	1698.7	2151.2	1390.7	991.9	861.5
30°	1357.4	2110.3	1631.0	1354.9	1297.4	1354.9	1631.0	2110.3	1357.4	965.0	842.3
32.5°	1278.2	2013.2	1492.9	1257.7	1209.2	1257.7	1492.9	2013.2	1278.2	911.4	796.3
35°	1204.1	1904.5	1366.4	1167.0	1135.0	1167.0	1366.4	1904.5	1204.1	853.8	759.3
37.5°	1126.1	1790.8	1251.4	1087.7	1057.1	1087.7	1251.4	1790.8	1126.1	801.4	717.1
40°	1048.1	1678.3	1152.9	1012.3	971.4	1012.3	1152.9	1678.3	1048.1	750.3	680.0
42.5°	975.3	1546.6	1057.1	933.1	885.8	933.1	1057.1	1546.6	975.3	701.7	644.2
45°	894.7	1426.5	971.4	850.0	789.9	850.0	971.4	1426.5	894.7	655.7	608.4
47.5°	818.0	1302.5	897.3	766.9	690.2	766.9	897.3	1302.5	818.0	609.7	573.9
50°	745.2	1182.3	814.2	673.6	604.6	673.6	814.2	1182.3	745.2	567.5	538.1
52.5°	671.1	1069.9	741.4	589.3	520.2	589.3	741.4	1069.9	671.1	529.2	503.6
55°	600.8	952.3	668.5	507.4	453.8	507.4	668.5	952.3	600.8	484.4	464.0
57.5°	535.6	839.8	596.9	443.5	407.7	443.5	596.9	839.8	535.6	441.0	428.2
60°	475.5	736.2	526.6	384.7	356.6	384.7	526.6	736.2	475.5	398.8	392.4
62.5°	410.3	642.9	460.2	334.9	310.6	334.9	460.2	642.9	410.3	357.9	355.3
65°	357.9	548.3	391.1	290.2	273.5	290.2	391.1	548.3	357.9	317.0	315.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	305.5	458.9	331.1	248.0	235.2	248.0	331.1	458.9	305.5	276.1	276.1
70°	260.8	378.3	273.5	209.6	199.4	209.6	273.5	378.3	260.8	235.2	236.5
72.5°	210.9	304.2	222.4	171.3	162.3	171.3	222.4	304.2	210.9	196.8	200.7
75°	168.7	240.3	175.1	138.0	131.7	138.0	175.1	240.3	168.7	157.2	162.3
77.5°	129.1	176.4	129.1	106.1	101.0	106.1	129.1	176.4	129.1	122.7	127.8
80°	92.0	124.0	92.0	75.4	74.1	75.4	92.0	124.0	92.0	88.2	94.6
82.5°	61.4	79.2	60.1	51.1	48.6	51.1	60.1	79.2	61.4	60.1	62.6
85°	34.5	43.5	33.2	29.4	28.1	29.4	33.2	43.5	34.5	34.5	37.1
87.5°	15.3	16.6	14.1	12.8	11.5	12.8	14.1	16.6	15.3	16.6	16.6
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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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1859.8	1859.8	1859.8	1859.8	1859.8	1859.8
1°	1783.1	1765.2	1783.1	1804.8	1839.3	1876.4
2°	1706.4	1682.1	1706.4	1725.6	1797.1	1876.4
3°	1625.9	1622.0	1625.9	1660.4	1758.8	1873.8
4°	1573.5	1555.6	1573.5	1610.5	1721.7	1867.5
5°	1510.8	1490.4	1510.8	1562.0	1685.9	1862.3
6°	1457.1	1429.0	1457.1	1518.5	1651.4	1853.4
7°	1397.1	1376.6	1397.1	1463.5	1611.8	1841.9
8°	1374.1	1349.8	1374.1	1415.0	1574.7	1836.8
9°	1322.9	1296.1	1322.9	1390.7	1555.6	1827.8
10°	1291.0	1257.7	1291.0	1349.8	1515.9	1813.8
11°	1252.6	1220.7	1252.6	1312.7	1484.0	1795.9
12°	1229.6	1201.5	1229.6	1287.1	1455.9	1779.3
13°	1188.7	1152.9	1188.7	1255.2	1423.9	1769.0
14°	1159.3	1128.7	1159.3	1225.8	1388.1	1751.1
15°	1122.3	1094.1	1122.3	1195.1	1358.7	1730.7
16°	1098.0	1060.9	1098.0	1167.0	1325.5	1706.4
17°	1060.9	1036.6	1060.9	1142.7	1299.9	1693.6
18°	1034.1	1011.1	1034.1	1106.9	1270.5	1673.2
19°	1014.9	988.0	1014.9	1080.1	1242.4	1645.0
20°	988.0	965.0	988.0	1054.5	1216.8	1619.5
21°	962.5	942.0	962.5	1035.3	1192.6	1601.6
22.5°	938.2	910.1	938.2	993.2	1151.7	1562.0
23°	924.1	901.1	924.1	979.1	1142.7	1550.5
24°	907.5	880.7	907.5	956.1	1114.6	1521.1
25°	885.8	862.8	885.8	940.8	1089.0	1507.0
26°	866.6	844.9	866.6	916.5	1066.0	1476.3
27°	847.4	820.6	847.4	897.3	1041.7	1440.5
28°	830.8	805.3	830.8	883.2	1014.9	1415.0
29°	809.1	784.8	809.1	861.5	991.9	1390.7
30°	793.8	772.0	793.8	842.3	965.0	1357.4
32.5°	751.6	738.8	751.6	796.3	911.4	1278.2
35°	715.8	709.4	715.8	759.3	853.8	1204.1
37.5°	688.9	683.8	688.9	717.1	801.4	1126.1
40°	658.3	659.6	658.3	680.0	750.3	1048.1
42.5°	628.9	631.4	628.9	644.2	701.7	975.3
45°	600.8	600.8	600.8	608.4	655.7	894.7
47.5°	568.8	571.4	568.8	573.9	609.7	818.0
50°	536.8	539.4	536.8	538.1	567.5	745.2
52.5°	503.6	506.2	503.6	503.6	529.2	671.1
55°	467.8	472.9	467.8	464.0	484.4	600.8
57.5°	430.8	437.1	430.8	428.2	441.0	535.6
60°	397.5	403.9	397.5	392.4	398.8	475.5
62.5°	363.0	369.4	363.0	355.3	357.9	410.3
65°	327.2	334.9	327.2	315.7	317.0	357.9



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	288.9	295.3	288.9	276.1	276.1	305.5
70°	251.8	256.9	251.8	236.5	235.2	260.8
72.5°	213.5	218.6	213.5	200.7	196.8	210.9
75°	173.8	177.7	173.8	162.3	157.2	168.7
77.5°	138.0	138.0	138.0	127.8	122.7	129.1
80°	99.7	99.7	99.7	94.6	88.2	92.0
82.5°	66.5	66.5	66.5	62.6	60.1	61.4
85°	37.1	35.8	37.1	37.1	34.5	34.5
87.5°	14.1	15.3	14.1	16.6	16.6	15.3
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	22.62	24.14	22.98	24.45	24.77	19.93	21.45	20.29	21.76	22.08
	3H	23.83	25.20	24.21	25.53	25.89	21.25	22.62	21.63	22.95	23.31
	4H	24.23	25.51	24.63	25.86	26.23	21.71	22.99	22.11	23.34	23.72
	6H	24.47	25.65	24.88	26.02	26.41	22.02	23.20	22.43	23.57	23.96
	8H	24.53	25.65	24.95	26.04	26.44	22.10	23.22	22.52	23.61	24.02
	12H	24.55	25.63	24.98	26.01	26.44	22.14	23.22	22.57	23.60	24.03
4H	2H	22.90	24.18	23.30	24.53	24.91	20.89	22.17	21.29	22.52	22.90
	3H	24.40	25.46	24.81	25.86	26.26	22.36	23.42	22.77	23.82	24.22
	4H	24.95	25.91	25.39	26.33	26.77	22.87	23.83	23.31	24.25	24.69
	6H	25.32	26.16	25.78	26.60	27.06	23.25	24.08	23.70	24.52	24.98
	8H	25.41	26.19	25.88	26.64	27.10	23.35	24.13	23.81	24.57	25.04
	12H	25.47	26.16	25.95	26.64	27.11	23.41	24.11	23.89	24.58	25.06
8H	4H	25.09	25.87	25.56	26.32	26.79	23.28	24.06	23.74	24.50	24.97
	6H	25.56	26.20	26.05	26.69	27.17	23.73	24.37	24.22	24.86	25.34
	8H	25.71	26.28	26.22	26.79	27.28	23.87	24.45	24.38	24.96	25.45
	12H	25.81	26.32	26.32	26.81	27.38	23.98	24.49	24.49	24.98	25.54
12H	4H	25.09	25.79	25.57	26.27	26.74	23.32	24.02	23.81	24.50	24.97
	6H	25.56	26.14	26.08	26.65	27.14	23.79	24.37	24.30	24.88	25.36
	8H	25.75	26.26	26.26	26.75	27.32	23.98	24.49	24.49	24.98	25.54