

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P646655

Luminaire Tested: S123DRP-S775D935-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2024
Report Number: P646655
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1)
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-S775D935-X4F0-XX-UDD-G-W
Description: DEFINE 3 DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

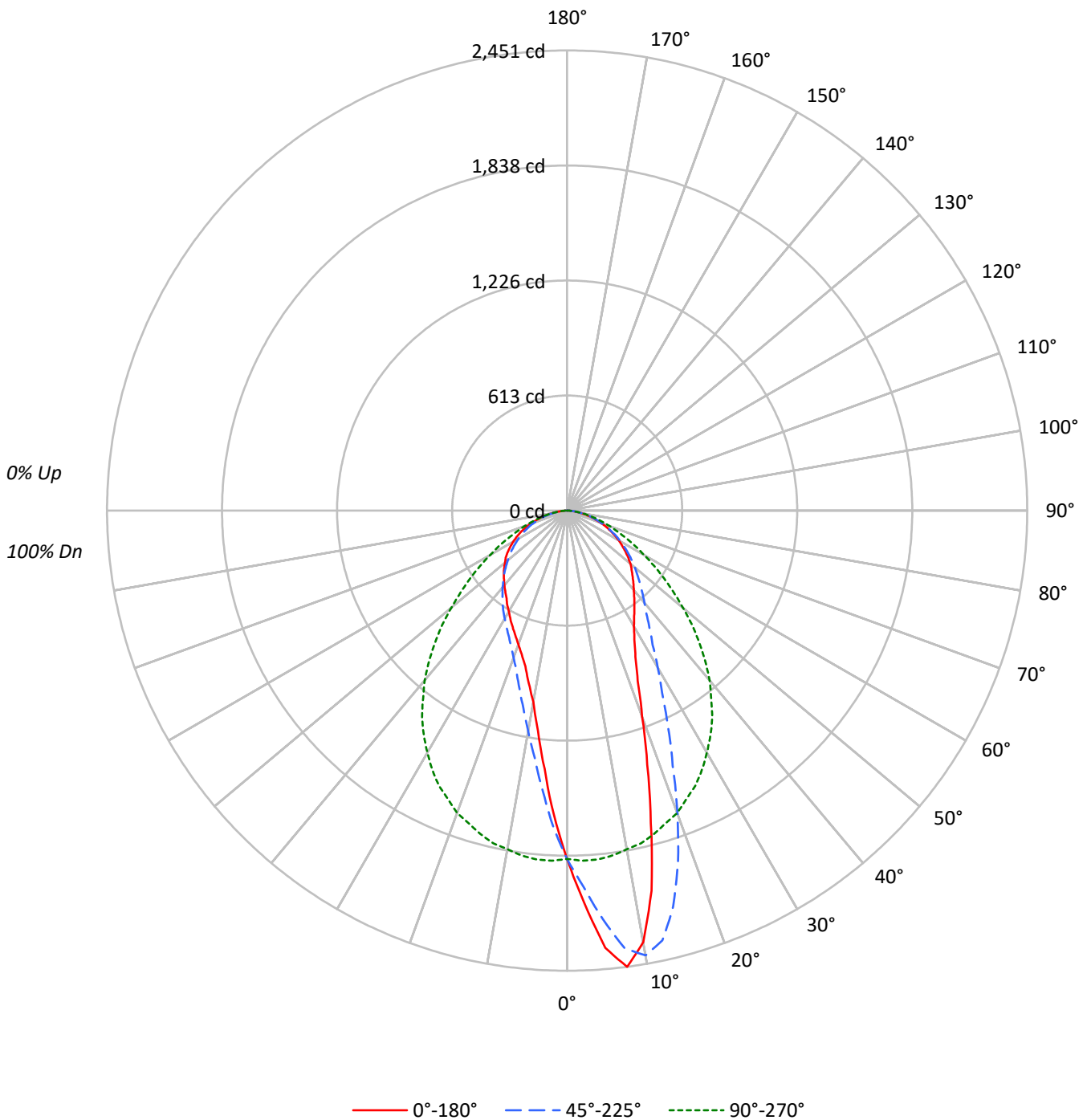
Lumens per Lamp: N/A
Luminaire Lumens: 2981.2 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 25.7
Input Voltage (V): 120
Input Current (A_{in}): 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	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					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	94	88	82	99	92	86	82	88	84	80	85	81	78	82	79	76	74					74			
3	93	84	76	70	91	82	75	70	79	73	69	77	72	67	74	70	66	64					64			
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	54	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	54	48	73	61	53	48	60	53	47	58	52	47	56	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	40	35	34					34			
10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	22357	22357	22357	22357	22357
5°	28274	26441	22556	18090	16703
10°	28548	29433	22406	14611	12662
15°	21502	27237	22254	12243	10708
20°	14982	22025	21970	10676	9726
25°	11424	16895	21486	9788	9123
30°	9883	13429	20713	9248	8637
35°	9170	11247	19821	8815	8296
40°	8681	10062	18567	8410	8179
45°	8392	9346	16975	8055	8128
50°	8248	8829	15090	7747	8087
55°	7941	8338	13241	7470	8121
60°	7656	7885	11411	7201	7989
65°	7193	7390	9845	6897	7832
70°	6644	6856	8371	6521	7370
75°	6010	6215	7174	5973	6732
80°	4961	5315	5676	5197	5676
85°	3926	4286	4161	4521	4521

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 19381 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.4	5.9
10°-20°	436.5	14.6
20°-30°	516.6	17.3
30°-40°	519.2	17.4
40°-50°	476.2	16.0
50°-60°	393.0	13.2
60°-70°	278.1	9.3
70°-80°	148.5	5.0
80°-90°	37.7	1.3
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°	1128.5	37.9
0°-40°	1647.7	55.3
0°-60°	2516.9	84.4
0°-90°	2981.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2981.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1856	1856	1856	1856	1856	
5°	2338	2186	1865	1496	1381	223
15°	1724	2184	1784	982	858	476
25°	859	1271	1616	736	686	406
35°	623	765	1348	599	564	392
45°	492	548	996	473	477	381
55°	378	397	630	356	387	338
65°	252	259	345	242	275	251
75°	129	134	154	128	145	136
85°	28	31	30	33	33	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5
2.5°	2091.4	2087.1	2065.5	2051.8	2055.2	2024.2	2005.3	1989.8	1979.4	1954.5	1941.6
5°	2337.6	2349.7	2335.9	2329.0	2293.7	2237.7	2186.1	2174.9	2126.7	2067.3	2046.6
7.5°	2451.3	2458.2	2449.5	2449.5	2438.3	2388.4	2352.2	2323.8	2241.2	2164.6	2129.2
10°	2333.3	2348.8	2382.4	2397.9	2420.3	2413.4	2405.6	2394.4	2338.5	2249.8	2209.3
12.5°	2074.1	2093.1	2160.2	2169.7	2246.3	2320.4	2344.5	2372.1	2377.2	2302.3	2258.4
15°	1723.7	1776.2	1837.4	1866.6	1963.9	2119.8	2183.5	2258.4	2347.1	2316.1	2281.6
17.5°	1419.8	1439.6	1505.0	1567.0	1664.3	1844.3	1962.2	2074.1	2264.4	2295.4	2273.9
20°	1168.4	1186.5	1272.6	1268.3	1397.4	1599.7	1717.7	1846.8	2127.5	2228.3	2224.0
22.5°	981.5	1010.0	1058.2	1084.9	1177.8	1357.8	1469.7	1630.7	1971.7	2131.0	2148.2
25°	859.3	879.9	909.2	932.5	1004.8	1152.9	1270.8	1403.4	1775.4	2003.5	2046.6
27.5°	775.8	784.4	813.6	827.4	875.6	1003.1	1094.3	1215.7	1593.7	1860.6	1920.9
30°	710.3	716.4	742.2	746.5	784.4	876.5	965.2	1064.2	1416.3	1713.4	1782.3
32.5°	664.7	669.0	688.8	690.5	718.9	786.1	848.1	941.1	1248.4	1555.8	1641.1
35°	623.4	625.9	640.6	644.9	663.0	713.8	764.6	836.0	1115.0	1413.8	1507.6
37.5°	587.2	590.6	599.3	604.4	619.1	659.5	694.0	753.4	986.7	1265.7	1369.8
40°	551.9	557.9	564.0	564.0	580.3	611.3	639.7	688.8	876.5	1136.5	1228.6
42.5°	521.8	527.8	530.4	531.2	539.8	568.3	592.4	625.9	793.0	1022.0	1112.4
45°	492.5	495.1	497.7	499.4	505.4	530.4	548.5	580.3	713.8	916.1	1003.9
47.5°	465.8	465.8	467.5	470.1	474.4	492.5	508.0	531.2	645.7	821.4	893.7
50°	440.0	440.0	437.4	439.1	441.7	455.5	471.0	489.9	582.0	734.4	799.0
52.5°	409.0	409.0	409.8	407.3	409.8	421.9	433.9	452.9	527.8	654.4	709.5
55°	378.0	381.4	378.8	377.1	380.6	388.3	396.9	413.3	477.0	590.6	634.6
57.5°	347.0	348.7	347.8	350.4	348.7	355.6	363.3	374.5	431.4	519.2	560.5
60°	317.7	317.7	316.0	317.7	317.7	321.2	327.2	338.4	384.9	458.1	492.5
62.5°	285.0	285.9	286.7	285.9	285.0	289.3	294.5	302.2	344.4	398.6	424.5
65°	252.3	253.1	255.7	254.9	254.0	258.3	259.2	267.8	299.6	346.1	365.1
67.5°	223.0	221.3	222.1	223.9	224.7	225.6	227.3	235.9	258.3	296.2	311.7
70°	188.6	190.3	189.4	192.0	190.3	192.9	194.6	200.6	222.1	247.1	257.4
72.5°	157.6	158.4	158.4	161.0	160.1	162.7	164.5	167.0	182.5	204.9	209.2
75°	129.1	129.1	130.9	131.7	131.7	131.7	133.5	135.2	148.1	161.9	166.2
77.5°	98.2	102.5	101.6	102.5	103.3	105.9	104.2	107.6	115.4	123.1	125.7
80°	71.5	71.5	72.3	73.2	74.9	76.6	76.6	80.1	83.5	87.8	90.4
82.5°	45.6	46.5	49.1	49.9	50.8	53.4	53.4	53.4	57.7	59.4	59.4
85°	28.4	26.7	28.4	29.3	30.1	31.0	31.0	32.7	33.6	34.4	34.4
87.5°	13.8	13.8	13.8	13.8	14.6	14.6	14.6	14.6	15.5	15.5	15.5
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5	1855.5
2.5°	1898.5	1866.6	1819.3	1780.5	1782.3	1747.0	1721.1	1687.6	1677.2	1666.9	1653.1
5°	1938.1	1864.9	1766.8	1688.4	1664.3	1605.8	1531.7	1495.6	1474.0	1436.1	1421.5
7.5°	1987.2	1852.9	1703.1	1580.8	1554.1	1456.8	1369.0	1325.9	1285.5	1258.8	1226.1
10°	2019.0	1831.3	1638.5	1476.6	1450.8	1339.7	1225.2	1194.2	1143.4	1110.7	1079.7
12.5°	2043.2	1815.0	1572.2	1383.6	1341.4	1233.8	1118.4	1076.2	1039.2	991.9	969.5
15°	2064.7	1784.0	1504.2	1286.3	1242.4	1126.2	1019.4	981.5	948.0	906.6	886.8
17.5°	2056.9	1746.1	1429.3	1200.2	1156.3	1041.8	939.3	896.3	873.9	837.8	824.0
20°	2047.5	1713.4	1358.7	1118.4	1070.2	963.5	863.6	832.6	810.2	787.0	774.9
22.5°	2017.3	1661.7	1287.2	1043.5	997.9	891.1	805.9	780.1	762.8	746.5	736.2
25°	1966.5	1616.1	1217.5	968.6	932.5	832.6	760.3	736.2	725.0	708.6	699.1
27.5°	1903.7	1555.8	1147.7	907.5	866.2	777.5	715.5	700.0	687.9	675.0	665.6
30°	1824.5	1488.7	1079.7	848.1	810.2	731.8	678.5	664.7	653.5	640.6	629.4
32.5°	1723.7	1420.6	1016.0	793.0	761.1	693.1	644.0	632.8	623.4	607.9	601.8
35°	1610.9	1347.5	953.1	740.5	710.3	650.9	610.4	599.3	589.8	576.9	571.7
37.5°	1496.4	1260.5	891.1	695.7	669.0	615.6	576.9	565.7	557.1	545.9	543.3
40°	1375.0	1180.4	830.0	650.1	626.8	581.2	543.3	534.7	526.1	519.2	517.5
42.5°	1252.8	1088.3	776.6	612.2	587.2	545.0	510.6	501.1	495.9	492.5	493.4
45°	1137.4	996.2	721.5	568.3	551.0	512.3	480.4	472.7	468.4	465.8	469.2
47.5°	1012.5	902.3	669.9	531.2	514.0	479.6	449.4	442.6	440.8	440.0	446.0
50°	902.3	805.0	613.9	493.4	478.7	443.4	419.3	413.3	411.6	414.1	422.8
52.5°	798.1	714.6	563.1	458.1	443.4	411.6	389.2	384.9	384.0	390.0	398.6
55°	694.8	630.3	508.0	419.3	404.7	377.1	359.9	355.6	354.7	366.8	374.5
57.5°	607.0	548.5	456.3	382.3	371.1	345.3	329.8	326.3	328.9	340.1	347.8
60°	520.9	473.5	409.0	342.7	334.1	311.7	299.6	298.8	301.3	314.3	322.0
62.5°	443.4	407.3	358.2	306.5	300.5	280.7	269.5	271.2	273.8	286.7	293.6
65°	377.1	345.3	308.2	270.4	262.6	248.8	241.1	241.9	247.1	258.3	265.2
67.5°	312.5	286.7	266.0	235.9	229.9	217.8	211.8	215.2	217.8	229.0	235.9
70°	258.3	237.6	222.1	199.8	195.4	185.1	180.8	185.1	187.7	197.2	205.8
72.5°	207.5	194.6	182.5	166.2	161.9	155.0	154.1	155.8	160.1	169.6	173.1
75°	161.0	154.1	143.8	133.5	130.9	127.4	126.6	128.3	132.6	137.8	141.2
77.5°	122.3	116.2	108.5	104.2	100.7	99.0	99.9	102.5	104.2	109.3	111.9
80°	88.7	81.8	80.1	74.0	73.2	72.3	74.0	74.9	77.5	80.9	82.7
82.5°	58.5	53.4	51.7	50.8	49.9	49.1	51.7	52.5	54.2	56.8	57.7
85°	31.9	30.1	30.1	29.3	30.1	31.9	31.9	32.7	32.7	33.6	32.7
87.5°	14.6	12.9	13.8	13.8	13.8	14.6	14.6	15.5	15.5	15.5	14.6
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):

	160°	170°	180°
0°	1855.5	1855.5	1855.5
2.5°	1652.3	1646.2	1622.1
5°	1408.6	1387.9	1381.0
7.5°	1222.6	1220.9	1184.7
10°	1065.1	1067.6	1034.9
12.5°	966.0	944.5	941.9
15°	881.7	861.9	858.4
17.5°	818.8	806.8	803.3
20°	771.5	764.6	758.5
22.5°	733.6	725.0	719.8
25°	695.7	687.9	686.2
27.5°	663.0	653.5	653.5
30°	629.4	623.4	620.8
32.5°	599.3	594.1	594.1
35°	570.0	567.4	564.0
37.5°	543.3	543.3	541.6
40°	517.5	520.0	520.0
42.5°	495.1	497.7	497.7
45°	471.0	475.3	477.0
47.5°	446.9	453.7	455.5
50°	425.3	430.5	431.4
52.5°	402.1	408.1	412.4
55°	378.0	384.0	386.6
57.5°	352.1	358.2	359.0
60°	323.7	329.8	331.5
62.5°	297.9	301.3	303.1
65°	266.0	271.2	274.7
67.5°	236.8	241.1	241.1
70°	204.9	206.6	209.2
72.5°	174.8	175.6	175.6
75°	142.1	143.8	144.6
77.5°	111.9	112.8	112.8
80°	82.7	81.8	81.8
82.5°	57.7	55.1	55.1
85°	32.7	31.9	32.7
87.5°	14.6	14.6	14.6
90°	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	18.28	19.79	18.65	20.11	20.42	20.74	22.25	21.10	22.56	22.87
	3H	19.98	21.33	20.35	21.66	22.02	21.95	23.31	22.33	23.63	24.00
	4H	20.58	21.85	20.98	22.20	22.58	22.37	23.64	22.77	23.99	24.37
	6H	20.98	22.16	21.40	22.52	22.92	22.64	23.82	23.06	24.19	24.58
	8H	21.08	22.20	21.51	22.59	23.00	22.71	23.83	23.14	24.22	24.62
	12H	21.14	22.21	21.57	22.59	23.02	22.75	23.82	23.18	24.20	24.63
4H	2H	18.93	20.20	19.33	20.55	20.93	20.96	22.23	21.36	22.58	22.96
	3H	20.82	21.87	21.23	22.27	22.68	22.44	23.50	22.85	23.90	24.30
	4H	21.54	22.49	21.97	22.91	23.35	23.01	23.96	23.44	24.38	24.81
	6H	22.05	22.88	22.51	23.32	23.78	23.40	24.23	23.86	24.67	25.13
	8H	22.19	22.96	22.65	23.41	23.87	23.51	24.28	23.97	24.73	25.19
	12H	22.27	22.97	22.76	23.44	23.92	23.57	24.26	24.05	24.74	25.21
8H	4H	21.86	22.64	22.33	23.08	23.55	23.17	23.95	23.64	24.39	24.86
	6H	22.48	23.12	22.97	23.61	24.09	23.66	24.30	24.16	24.80	25.27
	8H	22.67	23.25	23.19	23.76	24.25	23.83	24.40	24.34	24.91	25.40
	12H	22.82	23.32	23.33	23.82	24.38	23.94	24.45	24.45	24.94	25.51
12H	4H	21.89	22.59	22.38	23.07	23.54	23.18	23.87	23.66	24.35	24.82
	6H	22.53	23.10	23.04	23.61	24.10	23.68	24.26	24.20	24.77	25.26
	8H	22.78	23.29	23.29	23.78	24.34	23.89	24.40	24.40	24.89	25.46