

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: P646682

Luminaire Tested: S123RDRP-S340D935-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2024
Report Number: P646682
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S340D935-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

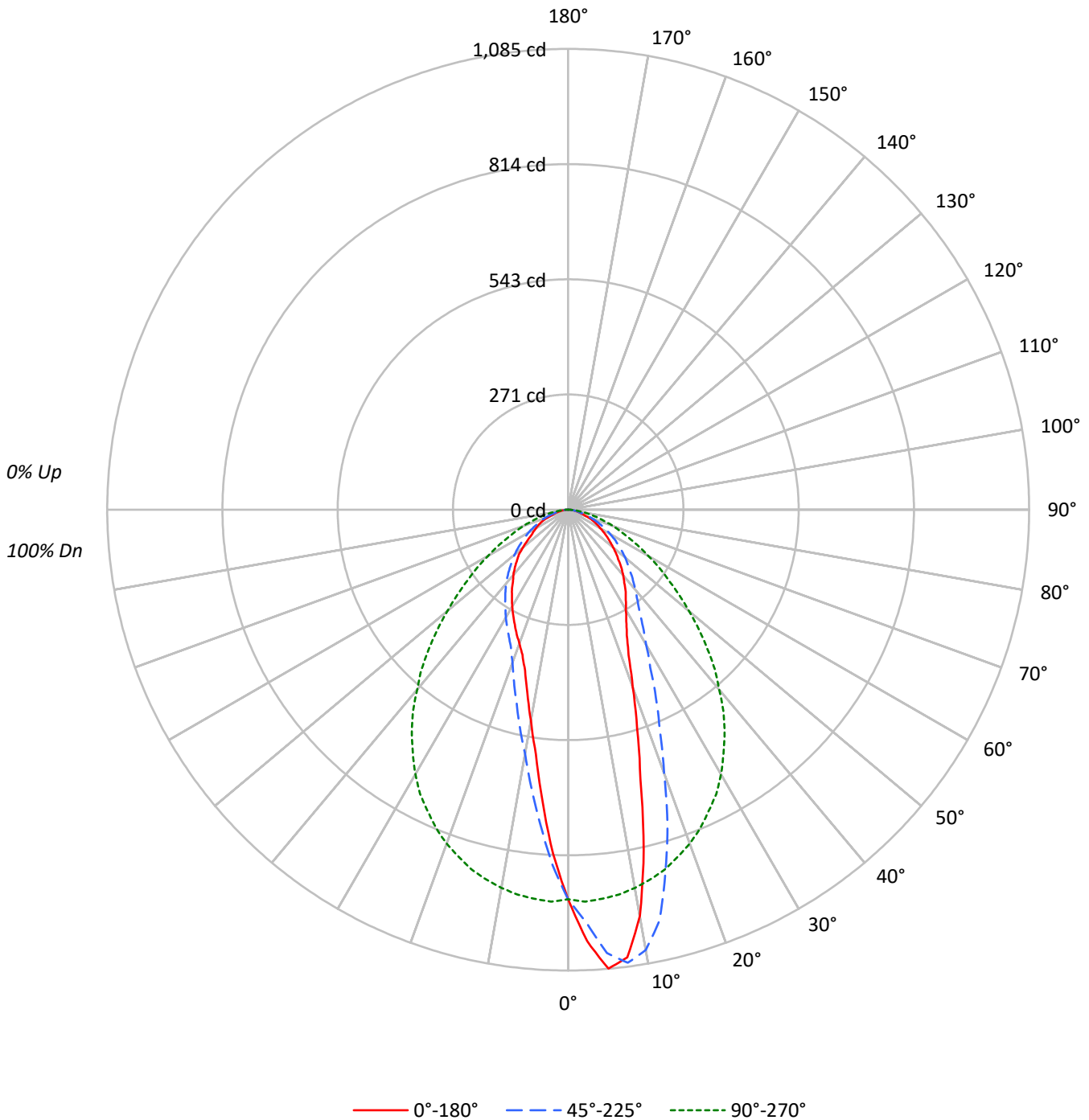
Lumens per Lamp: N/A
Luminaire Lumens: 1214.7 lumens
Efficiency: N/A
Efficacy: 102.1 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 11.9
Input Voltage (V): 120
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

TEST NUMBER: P646682

CATALOG NUMBER: S123RDRP-S340D935-X4F0-XX-UDD-G-W

Luminous Intensity Polar Plot



TEST NUMBER: P646682

CATALOG NUMBER: S123RDRP-S340D935-X4F0-XX-UDD-G-W

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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89				87	
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78				76	
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69				67	
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61				59	
5	82	70	62	56	80	69	62	56	67	61	56	65	60	55	63	58	54				53	
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49				47	
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45				43	
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41				39	
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38				36	
10	60	47	40	36	58	47	40	35	46	40	35	45	39	35	44	39	35				33	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	11048	11048	11048	11048	11048
5°	13118	12672	11118	9017	8343
10°	11885	12879	11062	7138	6177
15°	8183	11030	10945	5862	4886
20°	5693	8460	10725	4912	4296
25°	4338	6492	10406	4389	3958
30°	3776	5105	10006	4079	3666
35°	3467	4297	9439	3804	3401
40°	3163	3855	8698	3572	3157
45°	2858	3529	7898	3318	2914
50°	2592	3277	6954	3087	2615
55°	2346	3008	6050	2819	2244
60°	2101	2735	5253	2581	2121
65°	1939	2432	4522	2292	2004
70°	1575	2079	3946	2079	1628
75°	1383	1681	3343	1732	1434
80°	1249	1409	2741	1464	1353
85°	1147	1189	2074	1300	1244

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 8334 cd/sqm



TEST NUMBER: P646682

CATALOG NUMBER: S123RDRP-S340D935-X4F0-XX-UDD-G-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	6.9
10°-20°	193.3	15.9
20°-30°	221.8	18.3
30°-40°	218.5	18.0
40°-50°	192.6	15.9
50°-60°	148.2	12.2
60°-70°	97.5	8.0
70°-80°	47.3	3.9
80°-90°	11.9	1.0
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°	498.7	41.1
0°-40°	717.2	59.0
0°-60°	1058.0	87.1
0°-90°	1214.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1214.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	917	917	917	917	917	
5°	1085	1048	919	746	690	99
15°	656	884	877	470	392	185
25°	326	488	783	330	298	154
35°	236	292	642	259	231	147
45°	168	207	464	195	171	130
55°	112	143	288	134	107	100
65°	68	85	159	80	70	67
75°	30	36	72	37	31	32
85°	8	9	15	9	9	9
90°	0	0	0	0	0	



TEST NUMBER: P646682

CATALOG NUMBER: S123RDRP-S340D935-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9
2.5°	1016.1	1009.8	1007.9	1005.6	1001.9	988.3	972.9	974.4	972.5	960.9	954.5
5°	1084.6	1085.3	1083.4	1081.9	1075.5	1059.0	1047.7	1041.0	1026.7	1004.9	998.1
7.5°	1063.5	1075.5	1077.8	1080.4	1083.8	1080.1	1075.9	1073.3	1061.6	1037.9	1027.0
10°	971.4	970.7	984.2	995.1	1024.4	1045.1	1052.6	1063.5	1073.3	1056.7	1044.7
12.5°	821.0	822.2	866.5	866.5	904.5	957.1	991.0	1013.9	1056.0	1057.1	1050.0
15°	656.0	674.4	713.9	722.2	771.0	841.7	884.2	931.6	1013.1	1038.7	1037.2
17.5°	538.7	546.6	584.6	595.5	638.7	718.8	777.4	834.6	948.9	1002.6	1012.4
20°	444.0	451.1	478.6	486.8	530.4	606.8	659.8	721.4	871.0	953.4	970.7
22.5°	370.7	384.6	403.0	415.8	440.6	518.4	563.9	622.9	780.8	898.1	918.4
25°	326.3	332.7	348.5	354.5	384.6	436.1	488.3	540.2	700.7	828.9	864.6
27.5°	296.2	298.1	309.8	315.0	333.1	380.8	418.4	466.5	619.2	757.9	799.6
30°	271.4	274.8	283.8	285.0	300.7	334.6	366.9	411.3	547.7	689.1	731.9
32.5°	252.3	254.1	261.6	263.9	274.1	300.7	327.1	359.4	481.6	617.3	666.5
35°	235.7	236.1	241.7	244.7	253.8	275.9	292.1	319.2	428.6	557.9	601.1
37.5°	216.9	219.5	223.7	226.3	234.2	252.3	266.9	288.0	379.7	501.5	541.7
40°	201.1	203.4	208.3	209.4	216.5	233.1	245.1	263.9	337.6	447.4	488.3
42.5°	185.3	186.8	191.7	194.0	201.9	215.0	225.9	240.6	304.1	399.2	439.5
45°	167.7	171.4	176.7	177.8	185.3	198.9	207.1	220.7	274.1	357.5	393.2
47.5°	153.0	154.9	159.4	161.3	169.9	182.0	190.6	202.3	248.1	319.5	354.5
50°	138.3	139.1	143.2	145.9	152.6	166.5	174.8	185.3	224.4	288.7	313.2
52.5°	124.4	126.3	130.4	132.3	136.8	151.1	158.6	169.5	201.9	257.1	281.6
55°	111.7	112.8	115.8	118.0	123.3	135.7	143.2	152.6	182.3	228.2	249.6
57.5°	99.6	101.1	103.4	105.3	110.1	121.1	128.6	138.0	163.9	201.9	218.4
60°	87.2	89.1	91.7	92.5	97.0	106.8	113.5	121.8	145.1	177.4	192.1
62.5°	78.2	78.6	80.8	82.0	84.6	92.5	99.6	107.5	128.2	153.8	165.8
65°	68.0	69.2	70.3	71.1	73.3	80.1	85.3	91.4	111.7	133.8	142.1
67.5°	57.5	58.6	60.5	61.3	63.2	67.7	72.2	78.2	95.1	113.9	121.4
70°	44.7	44.7	47.7	49.2	52.3	55.6	59.0	64.3	78.9	95.1	100.7
72.5°	36.5	36.8	37.2	37.2	39.8	45.5	47.4	50.8	62.4	77.8	82.7
75°	29.7	30.1	30.5	30.8	31.2	33.1	36.1	39.1	47.7	59.0	63.5
77.5°	23.7	24.1	24.4	24.4	25.2	25.9	26.7	28.2	34.2	42.5	46.2
80°	18.0	18.4	18.8	18.8	19.2	19.9	20.3	21.1	22.9	28.6	30.5
82.5°	13.2	13.2	13.2	13.5	13.9	13.9	14.7	14.7	15.8	17.3	18.4
85°	8.3	8.3	8.6	8.6	8.6	9.0	8.6	9.0	9.4	9.8	10.5
87.5°	3.8	3.4	3.8	3.8	3.8	4.1	4.1	4.1	4.1	4.5	4.5
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: P646682

CATALOG NUMBER: S123RDRP-S340D935-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9	916.9
2.5°	936.8	923.7	901.5	887.6	882.3	866.1	850.7	838.0	831.6	830.8	819.2
5°	955.2	919.2	873.3	834.9	825.9	797.7	761.3	745.5	724.8	716.5	706.8
7.5°	970.3	913.9	846.2	788.3	771.4	728.9	682.3	661.6	645.9	621.0	606.4
10°	980.8	904.1	813.1	738.3	714.3	664.6	608.3	583.4	568.8	540.2	528.6
12.5°	984.9	891.7	780.1	686.5	665.4	606.4	551.1	525.6	503.7	477.8	466.5
15°	983.4	877.4	746.2	638.7	612.4	552.6	494.0	469.9	449.6	423.7	409.0
17.5°	973.3	857.1	709.4	592.5	567.3	505.6	446.2	424.1	406.0	380.8	369.5
20°	956.4	836.4	677.1	550.4	521.8	462.8	406.8	383.1	367.3	353.8	345.5
22.5°	933.1	812.0	637.6	508.6	483.8	424.4	370.7	351.5	342.1	331.2	325.2
25°	897.7	782.7	601.9	473.7	448.9	389.8	342.9	330.1	320.7	313.5	307.1
27.5°	859.8	754.5	566.2	438.3	415.0	358.6	321.0	311.3	303.0	294.0	288.3
30°	815.8	719.2	532.3	407.1	384.6	333.5	302.2	293.2	286.5	276.7	271.0
32.5°	763.9	680.4	500.7	377.1	356.0	311.6	285.0	275.2	269.5	260.1	254.5
35°	710.1	641.7	466.2	349.2	330.1	292.5	268.0	258.6	252.6	243.2	237.6
37.5°	657.5	600.4	435.3	324.8	307.5	273.3	250.4	242.5	236.8	227.1	220.3
40°	601.9	553.0	405.3	301.9	285.7	256.4	234.2	227.1	219.5	210.9	204.1
42.5°	543.6	511.3	377.4	281.6	266.5	239.8	218.0	210.5	204.1	194.0	191.0
45°	489.1	463.5	348.1	260.1	248.1	223.3	202.3	194.7	187.6	178.9	175.9
47.5°	440.6	416.9	321.4	241.3	229.3	207.1	186.5	178.6	173.3	166.5	162.0
50°	390.6	371.0	292.1	222.9	211.6	189.8	169.9	164.7	158.6	150.4	147.0
52.5°	344.0	328.9	268.0	205.3	194.7	175.2	154.9	149.6	144.0	136.8	132.0
55°	303.0	288.0	240.6	185.3	177.4	159.0	141.0	134.2	129.7	121.4	115.4
57.5°	260.9	253.8	214.3	168.8	161.3	142.9	126.7	121.4	115.8	106.8	100.7
60°	226.3	218.0	189.8	150.7	143.6	128.2	112.4	107.1	101.9	93.2	90.6
62.5°	193.6	187.6	166.2	133.8	127.8	112.8	98.9	94.0	88.7	83.1	81.2
65°	163.9	158.6	142.5	116.5	111.7	98.5	85.7	80.4	77.1	74.4	72.6
67.5°	136.1	133.1	120.7	100.4	96.6	85.0	73.7	69.5	67.7	64.7	63.2
70°	110.9	112.0	100.7	85.7	81.6	72.2	62.4	59.0	56.8	54.1	51.1
72.5°	90.6	90.2	83.5	69.9	66.9	59.4	51.9	49.6	47.0	41.7	38.3
75°	70.3	71.8	65.4	57.9	54.9	47.4	40.2	37.2	34.6	32.7	31.6
77.5°	53.8	54.5	51.5	44.4	41.7	35.3	29.7	28.2	27.1	25.9	25.6
80°	38.3	39.5	36.5	32.0	29.7	24.4	21.4	21.1	20.7	19.9	19.5
82.5°	24.8	26.3	24.8	19.9	18.8	16.2	15.4	15.4	15.0	14.7	14.3
85°	13.5	15.0	14.3	11.7	10.9	10.2	9.8	9.4	9.4	9.4	9.4
87.5°	5.3	7.1	6.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
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: P646682

CATALOG NUMBER: S123RDRP-S340D935-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	916.9	916.9	916.9
2.5°	816.5	812.8	811.3
5°	704.1	692.5	689.8
7.5°	601.9	597.0	580.8
10°	526.7	511.6	504.9
12.5°	459.0	445.1	442.8
15°	404.9	395.1	391.7
17.5°	369.2	362.4	358.3
20°	342.9	338.0	335.0
22.5°	322.9	319.2	316.9
25°	305.3	299.6	297.7
27.5°	287.2	282.3	280.4
30°	270.3	266.2	263.5
32.5°	252.6	247.7	246.2
35°	235.7	232.7	231.2
37.5°	219.2	215.4	213.2
40°	203.8	201.9	200.7
42.5°	189.8	186.5	186.1
45°	175.2	171.8	171.0
47.5°	161.3	158.3	157.9
50°	146.6	142.5	139.5
52.5°	128.9	125.2	122.6
55°	113.2	109.0	106.8
57.5°	100.0	98.1	97.0
60°	89.8	88.7	88.0
62.5°	80.8	79.7	79.7
65°	72.6	71.4	70.3
67.5°	62.4	60.1	59.8
70°	50.0	46.6	46.2
72.5°	38.0	37.6	36.8
75°	31.6	30.8	30.8
77.5°	25.6	24.8	24.8
80°	19.5	19.2	19.5
82.5°	14.3	14.3	13.9
85°	9.4	9.0	9.0
87.5°	4.5	4.5	4.5
90°	0.0	0.0	0.0

TEST NUMBER: P646682
 CATALOG NUMBER: S123RDRP-S340D935-X4F0-XX-UDD-G-W

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	13.05	14.50	13.41	14.82	15.13	18.14	19.60	18.51	19.91	20.22
	3H	14.38	15.68	14.76	16.01	16.37	19.42	20.72	19.80	21.05	21.41
	4H	14.78	16.00	15.18	16.35	16.73	19.86	21.08	20.26	21.43	21.81
	6H	15.08	16.21	15.50	16.58	16.97	20.16	21.28	20.57	21.65	22.04
	8H	15.19	16.26	15.61	16.65	17.05	20.23	21.30	20.66	21.69	22.10
	12H	15.25	16.28	15.69	16.66	17.09	20.27	21.30	20.71	21.68	22.11
4H	2H	13.90	15.12	14.30	15.47	15.85	18.18	19.40	18.58	19.75	20.13
	3H	15.37	16.38	15.78	16.78	17.18	19.67	20.68	20.08	21.08	21.48
	4H	15.83	16.74	16.27	17.16	17.60	20.23	21.13	20.66	21.55	21.99
	6H	16.22	17.01	16.68	17.45	17.91	20.67	21.45	21.12	21.90	22.36
	8H	16.35	17.08	16.81	17.53	18.00	20.78	21.52	21.25	21.96	22.43
	12H	16.45	17.10	16.93	17.58	18.06	20.86	21.52	21.34	22.00	22.47
8H	4H	16.22	16.96	16.69	17.40	17.87	20.23	20.97	20.70	21.41	21.88
	6H	16.69	17.29	17.19	17.79	18.27	20.72	21.32	21.22	21.82	22.30
	8H	16.87	17.42	17.39	17.93	18.42	20.88	21.42	21.40	21.94	22.43
	12H	17.03	17.51	17.54	18.00	18.57	21.01	21.49	21.52	21.98	22.55
12H	4H	16.27	16.92	16.75	17.40	17.87	20.21	20.86	20.69	21.34	21.81
	6H	16.75	17.30	17.27	17.81	18.30	20.69	21.24	21.21	21.75	22.24
	8H	16.99	17.47	17.50	17.96	18.53	20.89	21.37	21.40	21.86	22.43