

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: P646689

Luminaire Tested: S123RDRP-S560D927-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2024
Report Number: P646689
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-S560D927-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

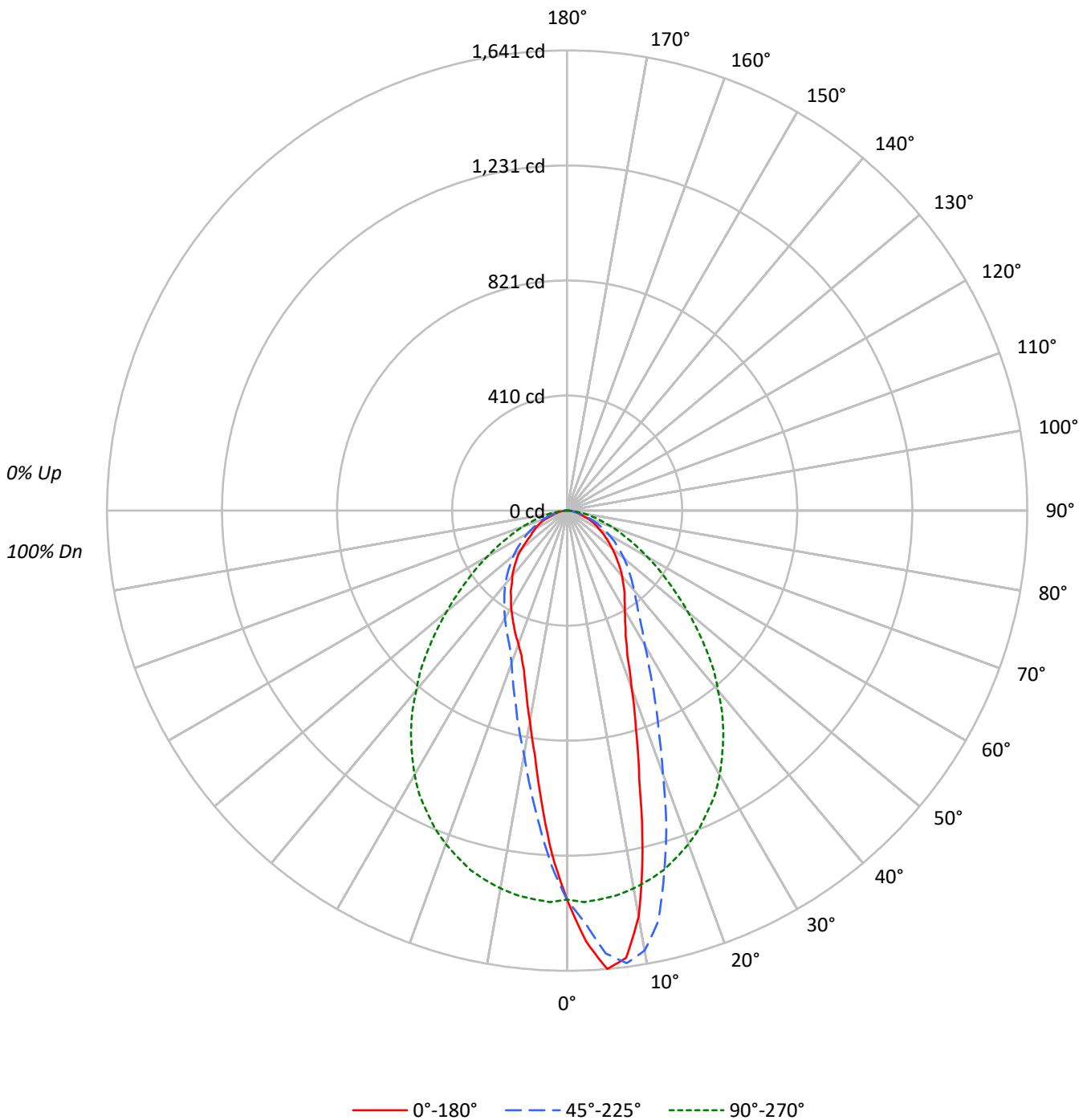
Lumens per Lamp: N/A
Luminaire Lumens: 1838.0 lumens
Efficiency: N/A
Efficacy: 98.8 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 18.6
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

TEST NUMBER: P646689

CATALOG NUMBER: S123RDRP-S560D927-X4F0-XX-UDD-G-W

Luminous Intensity Polar Plot





TEST NUMBER: P646689

CATALOG NUMBER: S123RDRP-S560D927-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°	16716	16716	16716	16716	16716
5°	19848	19175	16821	13642	12625
10°	17983	19487	16738	10801	9346
15°	12382	16688	16561	8869	7393
20°	8614	12801	16228	7432	6498
25°	6564	9824	15745	6639	5989
30°	5714	7725	15139	6173	5547
35°	5245	6502	14283	5756	5145
40°	4786	5834	13161	5405	4777
45°	4323	5340	11950	5020	4410
50°	3923	4958	10524	4669	3955
55°	3548	4552	9153	4267	3393
60°	3181	4140	7950	3906	3207
65°	2937	3681	6843	3470	3034
70°	2385	3146	5971	3146	2466
75°	2090	2542	5056	2621	2169
80°	1894	2130	4142	2213	2054
85°	1728	1811	3152	1963	1894

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 12610 cd/sqm



TEST NUMBER: P646689

CATALOG NUMBER: S123RDRP-S560D927-X4F0-XX-UDD-G-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.4	6.9
10°-20°	292.5	15.9
20°-30°	335.6	18.3
30°-40°	330.6	18.0
40°-50°	291.4	15.9
50°-60°	224.3	12.2
60°-70°	147.5	8.0
70°-80°	71.6	3.9
80°-90°	18.1	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°	754.6	41.1
0°-40°	1085.2	59.0
0°-60°	1600.8	87.1
0°-90°	1838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1838.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1387	1387	1387	1387	1387	
5°	1641	1585	1391	1128	1044	150
15°	993	1338	1328	711	593	280
25°	494	739	1184	499	450	233
35°	357	442	971	391	350	222
45°	254	313	701	295	259	197
55°	169	217	436	203	162	152
65°	103	129	240	122	106	101
75°	45	55	109	56	47	48
85°	12	13	23	14	14	14
90°	0	0	0	0	0	



TEST NUMBER: P646689

CATALOG NUMBER: S123RDRP-S560D927-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3
2.5°	1537.5	1527.8	1525.0	1521.6	1515.9	1495.4	1472.1	1474.3	1471.5	1453.9	1444.2
5°	1641.0	1642.1	1639.3	1637.0	1627.4	1602.3	1585.3	1575.0	1553.4	1520.4	1510.2
7.5°	1609.2	1627.4	1630.8	1634.8	1639.9	1634.2	1627.9	1623.9	1606.3	1570.5	1554.0
10°	1469.8	1468.7	1489.1	1505.6	1550.0	1581.3	1592.7	1609.2	1623.9	1598.9	1580.7
12.5°	1242.3	1244.0	1311.1	1311.1	1368.6	1448.2	1499.4	1534.1	1597.8	1599.5	1588.7
15°	992.6	1020.4	1080.2	1092.7	1166.6	1273.6	1337.8	1409.5	1532.9	1571.6	1569.3
17.5°	815.1	827.0	884.5	901.0	966.4	1087.6	1176.3	1262.8	1435.7	1517.0	1531.8
20°	671.8	682.6	724.1	736.6	802.6	918.1	998.3	1091.5	1317.9	1442.5	1468.7
22.5°	560.8	581.9	609.8	629.1	666.6	784.4	853.2	942.5	1181.4	1358.9	1389.6
25°	493.7	503.4	527.3	536.4	581.9	659.8	738.9	817.4	1060.3	1254.2	1308.3
27.5°	448.2	451.1	468.7	476.7	504.0	576.2	633.1	705.9	936.8	1146.7	1209.9
30°	410.7	415.8	429.4	431.2	455.0	506.2	555.2	622.3	828.8	1042.6	1107.5
32.5°	381.7	384.5	395.9	399.3	414.7	455.0	494.9	543.8	728.6	934.0	1008.5
35°	356.6	357.2	365.7	370.3	383.9	417.5	442.0	482.9	648.4	844.1	909.5
37.5°	328.2	332.2	338.4	342.4	354.4	381.7	403.9	435.7	574.5	758.8	819.7
40°	304.3	307.7	315.1	316.8	327.6	352.7	370.9	399.3	510.8	676.9	738.9
42.5°	280.4	282.7	290.1	293.5	305.4	325.4	341.9	364.0	460.2	604.1	664.9
45°	253.7	259.4	267.3	269.0	280.4	300.9	313.4	333.9	414.7	540.9	595.0
47.5°	231.5	234.3	241.2	244.0	257.1	275.3	288.4	306.0	375.4	483.5	536.4
50°	209.3	210.5	216.7	220.7	230.9	252.0	264.5	280.4	339.6	436.8	473.8
52.5°	188.3	191.1	197.4	200.2	207.0	228.7	240.0	256.5	305.4	389.1	426.0
55°	168.9	170.6	175.2	178.6	186.6	205.3	216.7	230.9	275.9	345.3	377.7
57.5°	150.7	153.0	156.4	159.3	166.7	183.2	194.5	208.8	248.0	305.4	330.5
60°	132.0	134.8	138.8	139.9	146.8	161.5	171.8	184.3	219.6	268.5	290.7
62.5°	118.3	118.9	122.3	124.0	128.0	139.9	150.7	162.7	194.0	232.6	250.8
65°	103.0	104.7	106.4	107.5	110.9	121.2	129.1	138.2	168.9	202.5	215.0
67.5°	87.0	88.7	91.6	92.7	95.6	102.4	109.2	118.3	143.9	172.3	183.7
70°	67.7	67.7	72.2	74.5	79.1	84.2	89.3	97.3	119.4	143.9	152.4
72.5°	55.2	55.7	56.3	56.3	60.3	68.8	71.7	76.8	94.4	117.7	125.1
75°	44.9	45.5	46.1	46.6	47.2	50.1	54.6	59.2	72.2	89.3	96.1
77.5°	35.8	36.4	37.0	37.0	38.1	39.2	40.4	42.7	51.8	64.3	70.0
80°	27.3	27.9	28.4	28.4	29.0	30.1	30.7	31.9	34.7	43.2	46.1
82.5°	19.9	19.9	19.9	20.5	21.0	21.0	22.2	22.2	23.9	26.2	27.9
85°	12.5	12.5	13.1	13.1	13.1	13.7	13.1	13.7	14.2	14.8	15.9
87.5°	5.7	5.1	5.7	5.7	5.7	6.3	6.3	6.3	6.3	6.8	6.8
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: P646689

CATALOG NUMBER: S123RDRP-S560D927-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3
2.5°	1417.5	1397.6	1364.0	1343.0	1335.0	1310.5	1287.2	1267.9	1258.2	1257.1	1239.4
5°	1445.3	1390.7	1321.3	1263.3	1249.7	1207.0	1151.8	1127.9	1096.7	1084.1	1069.4
7.5°	1468.1	1382.8	1280.4	1192.8	1167.2	1102.9	1032.4	1001.1	977.2	939.7	917.5
10°	1484.0	1368.0	1230.3	1117.1	1080.7	1005.7	920.3	882.8	860.6	817.4	799.7
12.5°	1490.3	1349.2	1180.3	1038.6	1006.8	917.5	833.9	795.2	762.2	723.0	705.9
15°	1488.0	1327.6	1129.1	966.4	926.6	836.1	747.4	711.0	680.3	641.0	618.9
17.5°	1472.6	1296.9	1073.3	896.4	858.3	765.0	675.2	641.6	614.3	576.2	559.1
20°	1447.0	1265.6	1024.4	832.7	789.5	700.2	615.4	579.6	555.7	535.2	522.7
22.5°	1411.8	1228.6	964.7	769.6	732.1	642.2	560.8	531.8	517.6	501.1	492.0
25°	1358.3	1184.3	910.7	716.7	679.2	589.9	518.8	499.4	485.2	474.4	464.7
27.5°	1300.9	1141.6	856.6	663.2	628.0	542.6	485.8	471.0	458.5	444.8	436.3
30°	1234.3	1088.1	805.4	616.0	581.9	504.5	457.3	443.7	433.4	418.6	410.1
32.5°	1155.8	1029.5	757.7	570.5	538.7	471.5	431.2	416.4	407.8	393.6	385.1
35°	1074.5	971.0	705.3	528.4	499.4	442.5	405.6	391.3	382.2	368.0	359.5
37.5°	994.8	908.4	658.7	491.4	465.3	413.5	378.8	366.9	358.3	343.6	333.3
40°	910.7	836.7	613.2	456.8	432.3	387.9	354.4	343.6	332.2	319.1	308.9
42.5°	822.5	773.6	571.1	426.0	403.3	362.9	329.9	318.5	308.9	293.5	289.0
45°	740.0	701.3	526.7	393.6	375.4	337.9	306.0	294.6	283.8	270.8	266.2
47.5°	666.6	630.8	486.3	365.2	347.0	313.4	282.1	270.2	262.2	252.0	245.2
50°	591.0	561.4	442.0	337.3	320.2	287.2	257.1	249.1	240.0	227.5	222.4
52.5°	520.5	497.7	405.6	310.6	294.6	265.1	234.3	226.4	217.9	207.0	199.7
55°	458.5	435.7	364.0	280.4	268.5	240.6	213.3	203.1	196.2	183.7	174.6
57.5°	394.8	383.9	324.2	255.4	244.0	216.1	191.7	183.7	175.2	161.5	152.4
60°	342.4	329.9	287.2	228.1	217.3	194.0	170.1	162.1	154.1	141.1	137.1
62.5°	292.9	283.8	251.4	202.5	193.4	170.6	149.6	142.2	134.2	125.7	122.9
65°	248.0	240.0	215.6	176.3	168.9	149.0	129.7	121.7	116.6	112.6	109.8
67.5°	205.9	201.4	182.6	151.9	146.2	128.6	111.5	105.2	102.4	97.8	95.6
70°	167.8	169.5	152.4	129.7	123.4	109.2	94.4	89.3	85.9	81.9	77.4
72.5°	137.1	136.5	126.3	105.8	101.2	89.9	78.5	75.1	71.1	63.1	58.0
75°	106.4	108.6	99.0	87.6	83.0	71.7	60.9	56.3	52.3	49.5	47.8
77.5°	81.3	82.5	77.9	67.1	63.1	53.5	44.9	42.7	41.0	39.2	38.7
80°	58.0	59.7	55.2	48.3	44.9	37.0	32.4	31.9	31.3	30.1	29.6
82.5°	37.5	39.8	37.5	30.1	28.4	24.5	23.3	23.3	22.8	22.2	21.6
85°	20.5	22.8	21.6	17.6	16.5	15.4	14.8	14.2	14.2	14.2	14.2
87.5°	8.0	10.8	9.1	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
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: P646689

CATALOG NUMBER: S123RDRP-S560D927-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1387.3	1387.3	1387.3
2.5°	1235.4	1229.8	1227.5
5°	1065.4	1047.7	1043.8
7.5°	910.7	903.3	878.8
10°	796.9	774.1	763.9
12.5°	694.5	673.5	670.1
15°	612.6	597.8	592.7
17.5°	558.6	548.3	542.1
20°	518.8	511.4	506.8
22.5°	488.6	482.9	479.5
25°	461.9	453.3	450.5
27.5°	434.6	427.2	424.3
30°	409.0	402.7	398.7
32.5°	382.2	374.8	372.6
35°	356.6	352.1	349.8
37.5°	331.6	325.9	322.5
40°	308.3	305.4	303.7
42.5°	287.2	282.1	281.6
45°	265.1	259.9	258.8
47.5°	244.0	239.5	238.9
50°	221.8	215.6	211.0
52.5°	195.1	189.4	185.4
55°	171.2	165.0	161.5
57.5°	151.3	148.5	146.8
60°	135.9	134.2	133.1
62.5°	122.3	120.6	120.6
65°	109.8	108.1	106.4
67.5°	94.4	91.0	90.4
70°	75.7	70.5	70.0
72.5°	57.4	56.9	55.7
75°	47.8	46.6	46.6
77.5°	38.7	37.5	37.5
80°	29.6	29.0	29.6
82.5°	21.6	21.6	21.0
85°	14.2	13.7	13.7
87.5°	6.8	6.8	6.8
90°	0.0	0.0	0.0

TEST NUMBER: P646689
 CATALOG NUMBER: S123RDRP-S560D927-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	14.48	15.94	14.85	16.25	16.57	19.58	21.03	19.94	21.35	21.66
	3H	15.82	17.12	16.20	17.45	17.81	20.86	22.16	21.24	22.49	22.85
	4H	16.22	17.44	16.62	17.79	18.17	21.30	22.52	21.70	22.87	23.25
	6H	16.52	17.65	16.94	18.02	18.41	21.60	22.72	22.01	23.09	23.48
	8H	16.62	17.69	17.05	18.08	18.49	21.67	22.74	22.10	23.13	23.54
	12H	16.69	17.72	17.12	18.10	18.53	21.71	22.74	22.14	23.12	23.55
4H	2H	15.33	16.55	15.74	16.90	17.28	19.62	20.84	20.02	21.19	21.57
	3H	16.81	17.82	17.22	18.22	18.62	21.11	22.12	21.52	22.52	22.92
	4H	17.27	18.18	17.70	18.59	19.03	21.66	22.57	22.10	22.99	23.43
	6H	17.66	18.45	18.12	18.89	19.35	22.10	22.89	22.56	23.33	23.80
	8H	17.79	18.52	18.25	18.97	19.44	22.22	22.96	22.69	23.40	23.87
	12H	17.89	18.54	18.37	19.02	19.49	22.30	22.95	22.78	23.43	23.91
8H	4H	17.66	18.39	18.12	18.84	19.31	21.67	22.41	22.14	22.85	23.32
	6H	18.13	18.73	18.63	19.23	19.70	22.16	22.76	22.66	23.26	23.73
	8H	18.31	18.85	18.83	19.37	19.85	22.32	22.86	22.84	23.37	23.86
	12H	18.47	18.95	18.98	19.44	20.01	22.45	22.93	22.96	23.42	23.99
12H	4H	17.71	18.36	18.19	18.84	19.31	21.65	22.30	22.13	22.78	23.25
	6H	18.19	18.74	18.71	19.25	19.74	22.13	22.67	22.65	23.19	23.68
	8H	18.43	18.90	18.94	19.40	19.96	22.33	22.81	22.84	23.30	23.87