

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: P646699

Luminaire Tested: S123RDRP-S775D930-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2024
Report Number: P646699
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-S775D930-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

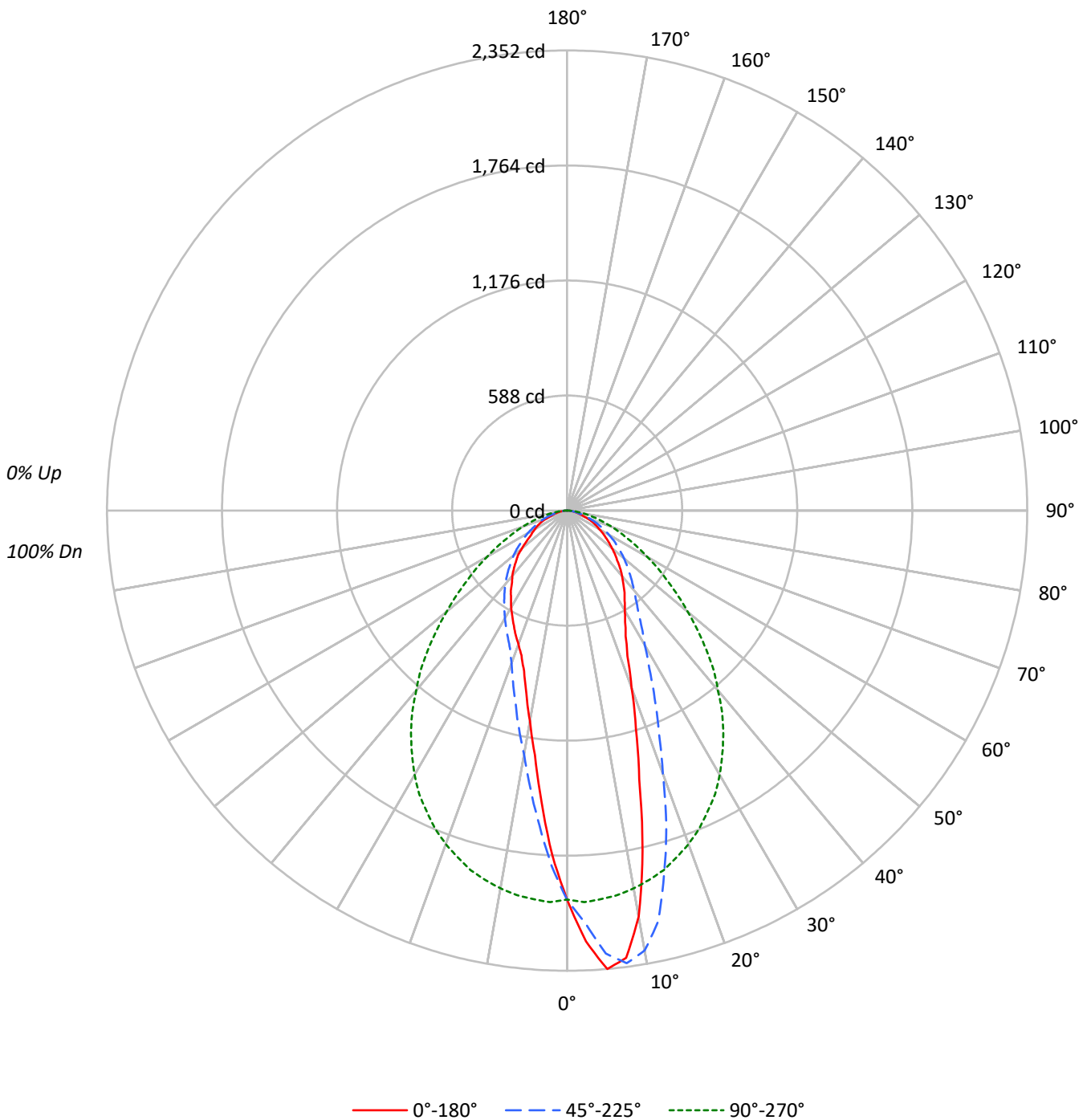
Lumens per Lamp: N/A
Luminaire Lumens: 2634.5 lumens
Efficiency: N/A
Efficacy: 101.3 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 26
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: P646699

CATALOG NUMBER: S123RDRP-S775D930-X4F0-XX-UDD-G-W

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	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°	23960	23960	23960	23960	23960
5°	28449	27483	24111	19554	18096
10°	25776	27930	23990	15481	13396
15°	17747	23921	23737	12712	10597
20°	12347	18346	23260	10653	9314
25°	9409	14081	22568	9516	8584
30°	8189	11071	21700	8847	7951
35°	7519	9318	20471	8250	7375
40°	6861	8362	18864	7745	6848
45°	6196	7654	17130	7196	6322
50°	5624	7106	15084	6694	5670
55°	5086	6525	13119	6115	4863
60°	4557	5933	11396	5600	4598
65°	4208	5277	9811	4975	4348
70°	3417	4509	8561	4509	3534
75°	2998	3645	7249	3757	3114
80°	2713	3053	5940	3171	2942
85°	2475	2599	4507	2820	2710

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 18074 cd/sqm



TEST NUMBER: P646699

CATALOG NUMBER: S123RDRP-S775D930-X4F0-XX-UDD-G-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.2	6.9
10°-20°	419.3	15.9
20°-30°	481.1	18.3
30°-40°	473.9	18.0
40°-50°	417.7	15.9
50°-60°	321.4	12.2
60°-70°	211.4	8.0
70°-80°	102.6	3.9
80°-90°	25.9	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°	1081.6	41.1
0°-40°	1555.5	59.0
0°-60°	2294.6	87.1
0°-90°	2634.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2634.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1988	1988	1988	1988	1988	
5°	2352	2272	1993	1617	1496	215
15°	1423	1918	1903	1019	850	402
25°	708	1059	1698	716	646	334
35°	511	634	1392	561	501	319
45°	364	449	1005	422	371	282
55°	242	311	624	291	232	217
65°	148	185	344	174	152	145
75°	64	78	156	81	67	69
85°	18	19	33	20	20	20
90°	0	0	0	0	0	



TEST NUMBER: P646699

CATALOG NUMBER: S123RDRP-S775D930-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5
2.5°	2203.8	2189.9	2185.8	2180.9	2172.8	2143.4	2110.0	2113.3	2109.2	2083.9	2070.0
5°	2352.1	2353.8	2349.7	2346.4	2332.6	2296.7	2272.2	2257.6	2226.6	2179.3	2164.6
7.5°	2306.5	2332.6	2337.5	2343.2	2350.5	2342.4	2333.4	2327.7	2302.4	2251.0	2227.4
10°	2106.7	2105.1	2134.5	2158.1	2221.7	2266.5	2282.8	2306.5	2327.7	2291.8	2265.7
12.5°	1780.6	1783.1	1879.3	1879.3	1961.6	2075.8	2149.1	2198.9	2290.2	2292.6	2277.1
15°	1422.7	1462.6	1548.3	1566.2	1672.2	1825.5	1917.6	2020.3	2197.2	2252.7	2249.4
17.5°	1168.3	1185.4	1267.8	1291.4	1385.2	1558.9	1686.0	1810.0	2057.8	2174.4	2195.6
20°	962.9	978.4	1037.9	1055.8	1150.4	1315.9	1430.8	1564.6	1889.0	2067.6	2105.1
22.5°	803.9	834.1	874.0	901.7	955.5	1124.3	1222.9	1351.0	1693.4	1947.7	1991.8
25°	707.7	721.5	755.8	768.8	834.1	945.7	1059.1	1171.6	1519.7	1797.7	1875.2
27.5°	642.5	646.5	671.8	683.2	722.4	825.9	907.4	1011.8	1342.8	1643.6	1734.1
30°	588.6	596.0	615.6	618.0	652.2	725.6	795.7	891.9	1187.9	1494.4	1587.4
32.5°	547.1	551.1	567.4	572.3	594.4	652.2	709.3	779.4	1044.4	1338.7	1445.5
35°	511.2	512.0	524.2	530.8	550.3	598.4	633.5	692.2	929.4	1209.9	1303.7
37.5°	470.4	476.1	485.1	490.8	507.9	547.1	578.9	624.5	823.5	1087.6	1174.8
40°	436.2	441.1	451.7	454.1	469.6	505.5	531.6	572.3	732.1	970.2	1059.1
42.5°	401.9	405.2	415.8	420.7	437.8	466.4	490.0	521.8	659.6	865.8	953.1
45°	363.6	371.8	383.2	385.6	401.9	431.3	449.2	478.6	594.4	775.3	852.8
47.5°	331.8	335.9	345.7	349.8	368.5	394.6	413.4	438.6	538.1	693.0	768.8
50°	300.0	301.7	310.6	316.3	331.0	361.2	379.1	401.9	486.7	626.1	679.1
52.5°	269.9	273.9	282.9	287.0	296.8	327.8	344.1	367.7	437.8	557.7	610.7
55°	242.1	244.6	251.1	256.0	267.4	294.3	310.6	331.0	395.4	494.9	541.4
57.5°	216.1	219.3	224.2	228.3	238.9	262.5	278.8	299.2	355.5	437.8	473.7
60°	189.1	193.2	198.9	200.6	210.3	231.5	246.2	264.2	314.7	384.8	416.6
62.5°	169.6	170.4	175.3	177.7	183.4	200.6	216.1	233.2	278.0	333.5	359.5
65°	147.6	150.0	152.5	154.1	159.0	173.7	185.1	198.1	242.1	290.2	308.2
67.5°	124.7	127.2	131.3	132.9	137.0	146.8	156.5	169.6	206.3	247.0	263.3
70°	97.0	97.0	103.5	106.8	113.3	120.7	128.0	139.4	171.2	206.3	218.5
72.5°	79.1	79.9	80.7	80.7	86.4	98.7	102.7	110.1	135.3	168.8	179.4
75°	64.4	65.2	66.0	66.9	67.7	71.7	78.3	84.8	103.5	128.0	137.8
77.5°	51.4	52.2	53.0	53.0	54.6	56.3	57.9	61.1	74.2	92.1	100.3
80°	39.1	39.9	40.8	40.8	41.6	43.2	44.0	45.7	49.7	62.0	66.0
82.5°	28.5	28.5	28.5	29.4	30.2	30.2	31.8	31.8	34.2	37.5	39.9
85°	17.9	17.9	18.8	18.8	18.8	19.6	18.8	19.6	20.4	21.2	22.8
87.5°	8.2	7.3	8.2	8.2	8.2	9.0	9.0	9.0	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: P646699

CATALOG NUMBER: S123RDRP-S775D930-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5	1988.5
2.5°	2031.7	2003.2	1955.1	1924.9	1913.5	1878.4	1845.0	1817.3	1803.4	1801.8	1776.5
5°	2071.7	1993.4	1893.9	1810.8	1791.2	1730.1	1651.0	1616.7	1571.9	1554.0	1532.8
7.5°	2104.3	1982.0	1835.2	1709.7	1673.0	1580.9	1479.8	1434.9	1400.7	1346.9	1315.1
10°	2127.1	1960.8	1763.5	1601.2	1549.1	1441.4	1319.2	1265.3	1233.5	1171.6	1146.3
12.5°	2136.1	1933.9	1691.7	1488.7	1443.1	1315.1	1195.2	1139.8	1092.5	1036.2	1011.8
15°	2132.8	1902.9	1618.4	1385.2	1328.1	1198.5	1071.3	1019.1	975.1	918.8	887.0
17.5°	2110.8	1858.9	1538.5	1284.9	1230.3	1096.6	967.8	919.7	880.5	825.9	801.4
20°	2074.1	1814.0	1468.4	1193.6	1131.6	1003.6	882.2	830.8	796.5	767.2	749.3
22.5°	2023.6	1761.0	1382.7	1103.1	1049.3	920.5	803.9	762.3	741.9	718.3	705.2
25°	1946.9	1697.5	1305.3	1027.3	973.5	845.5	743.6	715.8	695.4	680.0	666.1
27.5°	1864.6	1636.3	1227.8	950.6	900.1	777.8	696.3	675.1	657.1	637.6	625.3
30°	1769.2	1559.7	1154.5	883.0	834.1	723.2	655.5	635.9	621.3	600.1	587.8
32.5°	1656.7	1475.7	1086.0	817.7	772.1	675.9	618.0	596.8	584.6	564.2	552.0
35°	1540.1	1391.7	1011.0	757.4	715.8	634.3	581.3	560.9	547.9	527.5	515.3
37.5°	1426.0	1302.0	944.1	704.4	666.9	592.7	543.0	525.9	513.6	492.4	477.8
40°	1305.3	1199.3	878.9	654.7	619.6	556.0	507.9	492.4	476.1	457.4	442.7
42.5°	1178.9	1108.8	818.6	610.7	578.0	520.2	472.9	456.6	442.7	420.7	414.2
45°	1060.7	1005.3	755.0	564.2	538.1	484.3	438.6	422.3	406.8	388.1	381.6
47.5°	955.5	904.2	697.1	523.4	497.3	449.2	404.4	387.3	375.9	361.2	351.4
50°	847.1	804.7	633.5	483.5	459.0	411.7	368.5	357.1	344.1	326.1	318.8
52.5°	746.0	713.4	581.3	445.2	422.3	379.9	335.9	324.5	312.3	296.8	286.2
55°	657.1	624.5	521.8	401.9	384.8	344.9	305.7	291.1	281.3	263.3	250.3
57.5°	565.8	550.3	464.7	366.1	349.8	309.8	274.8	263.3	251.1	231.5	218.5
60°	490.8	472.9	411.7	326.9	311.4	278.0	243.8	232.4	220.9	202.2	196.5
62.5°	419.9	406.8	360.4	290.2	277.2	244.6	214.4	203.8	192.4	180.2	176.1
65°	355.5	344.1	309.0	252.7	242.1	213.6	185.9	174.5	167.1	161.4	157.4
67.5°	295.1	288.6	261.7	217.7	209.5	184.3	159.8	150.8	146.8	140.2	137.0
70°	240.5	243.0	218.5	185.9	176.9	156.5	135.3	128.0	123.1	117.4	110.9
72.5°	196.5	195.7	181.0	151.6	145.1	128.8	112.5	107.6	101.9	90.5	83.2
75°	152.5	155.7	141.9	125.6	119.0	102.7	87.2	80.7	75.0	70.9	68.5
77.5°	116.6	118.2	111.7	96.2	90.5	76.6	64.4	61.1	58.7	56.3	55.4
80°	83.2	85.6	79.1	69.3	64.4	53.0	46.5	45.7	44.8	43.2	42.4
82.5°	53.8	57.1	53.8	43.2	40.8	35.1	33.4	33.4	32.6	31.8	31.0
85°	29.4	32.6	31.0	25.3	23.6	22.0	21.2	20.4	20.4	20.4	20.4
87.5°	11.4	15.5	13.0	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
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: P646699

CATALOG NUMBER: S123RDRP-S775D930-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1988.5	1988.5	1988.5
2.5°	1770.8	1762.7	1759.4
5°	1527.1	1501.8	1496.1
7.5°	1305.3	1294.7	1259.6
10°	1142.2	1109.6	1094.9
12.5°	995.5	965.3	960.4
15°	878.1	856.9	849.5
17.5°	800.6	785.9	777.0
20°	743.6	733.0	726.4
22.5°	700.3	692.2	687.3
25°	662.0	649.8	645.7
27.5°	622.9	612.3	608.2
30°	586.2	577.2	571.5
32.5°	547.9	537.3	534.0
35°	511.2	504.7	501.4
37.5°	475.3	467.2	462.3
40°	441.9	437.8	435.4
42.5°	411.7	404.4	403.6
45°	379.9	372.6	371.0
47.5°	349.8	343.2	342.4
50°	318.0	309.0	302.5
52.5°	279.6	271.5	265.8
55°	245.4	236.4	231.5
57.5°	216.9	212.8	210.3
60°	194.9	192.4	190.8
62.5°	175.3	172.8	172.8
65°	157.4	154.9	152.5
67.5°	135.3	130.4	129.6
70°	108.4	101.1	100.3
72.5°	82.3	81.5	79.9
75°	68.5	66.9	66.9
77.5°	55.4	53.8	53.8
80°	42.4	41.6	42.4
82.5°	31.0	31.0	30.2
85°	20.4	19.6	19.6
87.5°	9.8	9.8	9.8
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	15.74	17.19	16.10	17.50	17.82	20.83	22.29	21.19	22.60	22.91
	3H	17.07	18.37	17.45	18.70	19.06	22.11	23.41	22.49	23.74	24.10
	4H	17.47	18.69	17.87	19.04	19.42	22.55	23.77	22.95	24.12	24.50
	6H	17.77	18.90	18.19	19.27	19.66	22.85	23.97	23.26	24.34	24.73
	8H	17.87	18.94	18.30	19.33	19.74	22.92	23.99	23.35	24.38	24.79
	12H	17.94	18.97	18.37	19.35	19.78	22.96	23.99	23.39	24.37	24.80
4H	2H	16.59	17.81	16.99	18.16	18.54	20.87	22.09	21.27	22.44	22.82
	3H	18.06	19.07	18.47	19.47	19.87	22.36	23.37	22.77	23.77	24.17
	4H	18.52	19.43	18.96	19.85	20.29	22.91	23.82	23.35	24.24	24.68
	6H	18.91	19.70	19.37	20.14	20.60	23.35	24.14	23.81	24.59	25.05
	8H	19.04	19.77	19.50	20.22	20.69	23.47	24.21	23.94	24.65	25.12
	12H	19.14	19.79	19.62	20.27	20.74	23.55	24.20	24.03	24.68	25.16
8H	4H	18.91	19.65	19.38	20.09	20.56	22.92	23.66	23.39	24.10	24.57
	6H	19.38	19.98	19.88	20.48	20.96	23.41	24.01	23.91	24.51	24.99
	8H	19.56	20.11	20.08	20.62	21.11	23.57	24.11	24.09	24.63	25.12
	12H	19.72	20.20	20.23	20.69	21.26	23.70	24.18	24.21	24.67	25.24
12H	4H	18.96	19.61	19.44	20.09	20.56	22.90	23.55	23.38	24.03	24.50
	6H	19.44	19.99	19.96	20.50	20.99	23.38	23.93	23.90	24.44	24.93
	8H	19.68	20.16	20.19	20.65	21.22	23.58	24.06	24.09	24.55	25.12