

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: P646700

Luminaire Tested: S123RDRP-S775D935-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2024
Report Number: P646700
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-S775D935-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

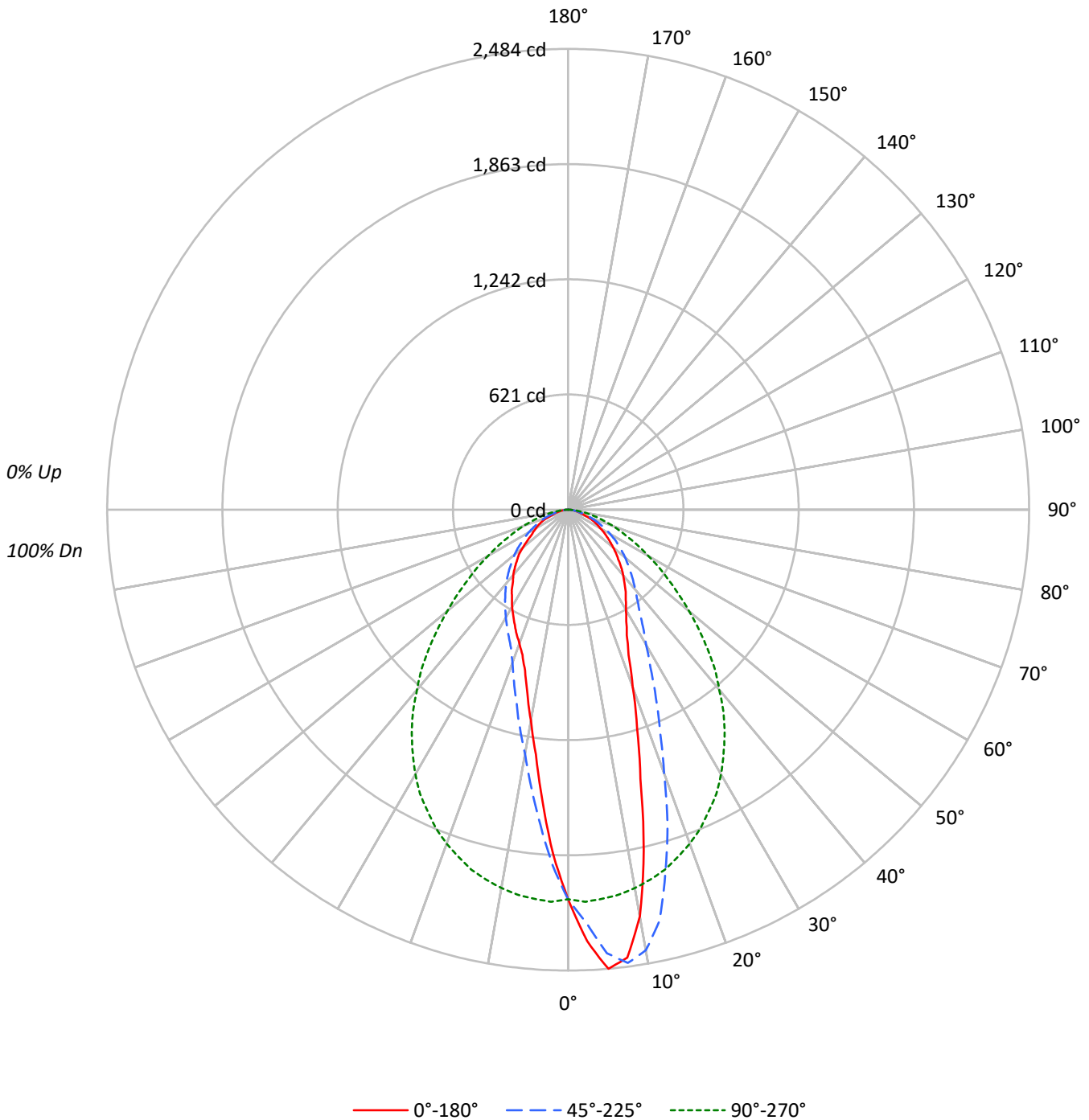
Lumens per Lamp: N/A
Luminaire Lumens: 2782.1 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

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

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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	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°	25303	25303	25303	25303	25303
5°	30044	29024	25462	20651	19109
10°	27221	29496	25335	16350	14147
15°	18741	25262	25068	13425	11192
20°	13038	19376	24564	11250	9836
25°	9935	14869	23832	10051	9066
30°	8648	11691	22916	9344	8398
35°	7940	9841	21618	8714	7789
40°	7245	8830	19921	8179	7232
45°	6543	8084	18090	7600	6676
50°	5938	7506	15930	7069	5987
55°	5372	6890	13854	6458	5136
60°	4815	6266	12035	5914	4856
65°	4442	5571	10358	5255	4590
70°	3611	4763	9040	4763	3731
75°	3166	3850	7658	3966	3287
80°	2866	3227	6273	3345	3109
85°	2613	2737	4756	2972	2862

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 19088 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.4	6.9
10°-20°	442.8	15.9
20°-30°	508.0	18.3
30°-40°	500.4	18.0
40°-50°	441.1	15.9
50°-60°	339.5	12.2
60°-70°	223.2	8.0
70°-80°	108.4	3.9
80°-90°	27.3	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°	1142.2	41.1
0°-40°	1642.7	59.0
0°-60°	2423.2	87.1
0°-90°	2782.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2782.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2100	2100	2100	2100	2100	
5°	2484	2400	2105	1707	1580	227
15°	1502	2025	2010	1076	897	424
25°	747	1118	1793	756	682	353
35°	540	669	1470	592	530	337
45°	384	474	1062	446	392	298
55°	256	328	660	307	244	229
65°	156	195	363	184	161	153
75°	68	83	164	85	71	73
85°	19	20	34	22	21	21
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°	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0
2.5°	2327.3	2312.6	2308.3	2303.2	2294.6	2263.6	2228.3	2231.7	2227.4	2200.7	2186.1
5°	2484.0	2485.7	2481.4	2478.0	2463.3	2425.4	2399.6	2384.1	2351.4	2301.4	2286.0
7.5°	2435.8	2463.3	2468.5	2474.5	2482.3	2473.6	2464.2	2458.2	2431.5	2377.2	2352.2
10°	2224.8	2223.1	2254.1	2279.1	2346.2	2393.6	2410.8	2435.8	2458.2	2420.3	2392.7
12.5°	1880.4	1883.0	1984.6	1984.6	2071.6	2192.1	2269.6	2322.1	2418.5	2421.1	2404.8
15°	1502.4	1544.6	1635.0	1654.0	1765.9	1927.8	2025.1	2133.6	2320.4	2378.9	2375.5
17.5°	1233.8	1251.9	1338.9	1363.8	1462.8	1646.2	1780.5	1911.4	2173.2	2296.3	2318.7
20°	1016.8	1033.2	1096.1	1115.0	1214.9	1389.7	1511.1	1652.3	1994.9	2183.5	2223.1
22.5°	848.9	880.8	923.0	952.3	1009.1	1187.3	1291.5	1426.7	1788.3	2056.9	2103.4
25°	747.3	762.0	798.1	811.9	880.8	998.8	1118.4	1237.3	1604.9	1898.5	1980.3
27.5°	678.5	682.8	709.5	721.5	762.8	872.2	958.3	1068.5	1418.1	1735.8	1831.3
30°	621.6	629.4	650.1	652.6	688.8	766.3	840.3	941.9	1254.5	1578.2	1676.4
32.5°	577.7	582.0	599.3	604.4	627.7	688.8	749.1	823.1	1102.9	1413.8	1526.6
35°	539.8	540.7	553.6	560.5	581.2	632.0	669.0	731.0	981.5	1277.7	1376.7
37.5°	496.8	502.8	512.3	518.3	536.4	577.7	611.3	659.5	869.6	1148.6	1240.7
40°	460.6	465.8	477.0	479.6	495.9	533.8	561.4	604.4	773.2	1024.6	1118.4
42.5°	424.5	427.9	439.1	444.3	462.4	492.5	517.5	551.0	696.5	914.4	1006.5
45°	384.0	392.6	404.7	407.3	424.5	455.5	474.4	505.4	627.7	818.8	900.6
47.5°	350.4	354.7	365.1	369.4	389.2	416.7	436.5	463.2	568.3	731.8	811.9
50°	316.8	318.6	328.0	334.1	349.6	381.4	400.4	424.5	514.0	661.2	717.2
52.5°	285.0	289.3	298.8	303.1	313.4	346.1	363.3	388.3	462.4	588.9	644.9
55°	255.7	258.3	265.2	270.4	282.4	310.8	328.0	349.6	417.6	522.6	571.7
57.5°	228.2	231.6	236.8	241.1	252.3	277.2	294.5	316.0	375.4	462.4	500.2
60°	199.8	204.1	210.1	211.8	222.1	244.5	260.0	279.0	332.3	406.4	440.0
62.5°	179.1	179.9	185.1	187.7	193.7	211.8	228.2	246.2	293.6	352.1	379.7
65°	155.8	158.4	161.0	162.7	167.9	183.4	195.4	209.2	255.7	306.5	325.5
67.5°	131.7	134.3	138.6	140.3	144.6	155.0	165.3	179.1	217.8	260.9	278.1
70°	102.5	102.5	109.3	112.8	119.7	127.4	135.2	147.2	180.8	217.8	230.7
72.5°	83.5	84.4	85.2	85.2	91.3	104.2	108.5	116.2	142.9	178.2	189.4
75°	68.0	68.9	69.7	70.6	71.5	75.8	82.7	89.5	109.3	135.2	145.5
77.5°	54.2	55.1	56.0	56.0	57.7	59.4	61.1	64.6	78.4	97.3	105.9
80°	41.3	42.2	43.0	43.0	43.9	45.6	46.5	48.2	52.5	65.4	69.7
82.5°	30.1	30.1	30.1	31.0	31.9	31.9	33.6	33.6	36.2	39.6	42.2
85°	18.9	18.9	19.8	19.8	19.8	20.7	19.8	20.7	21.5	22.4	24.1
87.5°	8.6	7.7	8.6	8.6	8.6	9.5	9.5	9.5	9.5	10.3	10.3
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°	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0
2.5°	2145.6	2115.5	2064.7	2032.8	2020.8	1983.7	1948.4	1919.2	1904.5	1902.8	1876.1
5°	2187.8	2105.1	2000.1	1912.3	1891.6	1827.0	1743.5	1707.4	1660.0	1641.1	1618.7
7.5°	2222.2	2093.1	1938.1	1805.5	1766.8	1669.5	1562.7	1515.4	1479.2	1422.4	1388.8
10°	2246.3	2070.7	1862.3	1691.0	1635.9	1522.2	1393.1	1336.3	1302.7	1237.3	1210.6
12.5°	2255.8	2042.3	1786.6	1572.2	1524.0	1388.8	1262.2	1203.7	1153.7	1094.3	1068.5
15°	2252.4	2009.6	1709.1	1462.8	1402.6	1265.7	1131.4	1076.2	1029.8	970.3	936.8
17.5°	2229.1	1963.1	1624.7	1356.9	1299.2	1158.0	1022.0	971.2	929.9	872.2	846.4
20°	2190.4	1915.7	1550.7	1260.5	1195.1	1059.9	931.6	877.4	841.2	810.2	791.3
22.5°	2137.0	1859.8	1460.3	1164.9	1108.1	972.1	848.9	805.0	783.5	758.5	744.8
25°	2056.1	1792.6	1378.5	1084.9	1028.0	892.9	785.2	756.0	734.4	718.1	703.4
27.5°	1969.1	1728.0	1296.7	1003.9	950.5	821.4	735.3	712.9	694.0	673.3	660.4
30°	1868.4	1647.1	1219.2	932.5	880.8	763.7	692.2	671.6	656.1	633.7	620.8
32.5°	1749.5	1558.4	1146.8	863.6	815.4	713.8	652.6	630.3	617.3	595.8	582.9
35°	1626.4	1469.7	1067.6	799.9	756.0	669.9	613.9	592.4	578.6	557.1	544.2
37.5°	1505.9	1375.0	997.0	743.9	704.3	625.9	573.4	555.3	542.4	520.0	504.5
40°	1378.5	1266.5	928.2	691.4	654.4	587.2	536.4	520.0	502.8	483.0	467.5
42.5°	1245.0	1171.0	864.4	644.9	610.4	549.3	499.4	482.2	467.5	444.3	437.4
45°	1120.2	1061.6	797.3	595.8	568.3	511.4	463.2	446.0	429.6	409.8	402.9
47.5°	1009.1	954.8	736.2	552.8	525.2	474.4	427.1	409.0	396.9	381.4	371.1
50°	894.6	849.8	669.0	510.6	484.7	434.8	389.2	377.1	363.3	344.4	336.7
52.5°	787.8	753.4	613.9	470.1	446.0	401.2	354.7	342.7	329.8	313.4	302.2
55°	694.0	659.5	551.0	424.5	406.4	364.2	322.9	307.4	297.0	278.1	264.3
57.5°	597.5	581.2	490.8	386.6	369.4	327.2	290.2	278.1	265.2	244.5	230.7
60°	518.3	499.4	434.8	345.3	328.9	293.6	257.4	245.4	233.3	213.5	207.5
62.5°	443.4	429.6	380.6	306.5	292.7	258.3	226.4	215.2	203.2	190.3	186.0
65°	375.4	363.3	326.3	266.9	255.7	225.6	196.3	184.3	176.5	170.5	166.2
67.5°	311.7	304.8	276.4	229.9	221.3	194.6	168.8	159.3	155.0	148.1	144.6
70°	254.0	256.6	230.7	196.3	186.8	165.3	142.9	135.2	130.0	124.0	117.1
72.5°	207.5	206.6	191.1	160.1	153.3	136.0	118.8	113.7	107.6	95.6	87.8
75°	161.0	164.5	149.8	132.6	125.7	108.5	92.1	85.2	79.2	74.9	72.3
77.5°	123.1	124.8	118.0	101.6	95.6	80.9	68.0	64.6	62.0	59.4	58.5
80°	87.8	90.4	83.5	73.2	68.0	56.0	49.1	48.2	47.4	45.6	44.8
82.5°	56.8	60.3	56.8	45.6	43.0	37.0	35.3	35.3	34.4	33.6	32.7
85°	31.0	34.4	32.7	26.7	25.0	23.2	22.4	21.5	21.5	21.5	21.5
87.5°	12.1	16.4	13.8	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
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°	2100.0	2100.0	2100.0
2.5°	1870.1	1861.5	1858.0
5°	1612.7	1586.0	1579.9
7.5°	1378.5	1367.3	1330.2
10°	1206.3	1171.8	1156.3
12.5°	1051.3	1019.4	1014.3
15°	927.3	904.9	897.2
17.5°	845.5	830.0	820.5
20°	785.2	774.0	767.1
22.5°	739.6	731.0	725.8
25°	699.1	686.2	681.9
27.5°	657.8	646.6	642.3
30°	619.1	609.6	603.6
32.5°	578.6	567.4	564.0
35°	539.8	533.0	529.5
37.5°	502.0	493.4	488.2
40°	466.7	462.4	459.8
42.5°	434.8	427.1	426.2
45°	401.2	393.5	391.8
47.5°	369.4	362.5	361.6
50°	335.8	326.3	319.4
52.5°	295.3	286.7	280.7
55°	259.2	249.7	244.5
57.5°	229.0	224.7	222.1
60°	205.8	203.2	201.5
62.5°	185.1	182.5	182.5
65°	166.2	163.6	161.0
67.5°	142.9	137.8	136.9
70°	114.5	106.8	105.9
72.5°	87.0	86.1	84.4
75°	72.3	70.6	70.6
77.5°	58.5	56.8	56.8
80°	44.8	43.9	44.8
82.5°	32.7	32.7	31.9
85°	21.5	20.7	20.7
87.5°	10.3	10.3	10.3
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	15.93	17.38	16.29	17.69	18.01	21.02	22.47	21.38	22.79	23.10
	3H	17.26	18.56	17.64	18.89	19.25	22.30	23.60	22.68	23.93	24.29
	4H	17.66	18.88	18.06	19.23	19.61	22.74	23.96	23.14	24.31	24.69
	6H	17.96	19.09	18.38	19.46	19.85	23.04	24.16	23.45	24.53	24.92
	8H	18.06	19.13	18.49	19.52	19.93	23.11	24.18	23.54	24.57	24.98
	12H	18.13	19.16	18.56	19.54	19.97	23.15	24.18	23.58	24.56	24.99
4H	2H	16.78	18.00	17.18	18.34	18.72	21.06	22.28	21.46	22.63	23.01
	3H	18.25	19.26	18.66	19.66	20.06	22.55	23.56	22.96	23.96	24.36
	4H	18.71	19.62	19.14	20.04	20.48	23.10	24.01	23.54	24.43	24.87
	6H	19.10	19.89	19.56	20.33	20.79	23.54	24.33	24.00	24.77	25.24
	8H	19.23	19.96	19.69	20.41	20.88	23.66	24.40	24.13	24.84	25.31
	12H	19.33	19.98	19.81	20.46	20.93	23.74	24.39	24.22	24.87	25.35
8H	4H	19.10	19.83	19.56	20.28	20.75	23.11	23.85	23.58	24.29	24.76
	6H	19.57	20.17	20.07	20.67	21.15	23.60	24.20	24.10	24.70	25.17
	8H	19.75	20.29	20.27	20.81	21.30	23.76	24.30	24.28	24.81	25.30
	12H	19.91	20.39	20.42	20.88	21.45	23.89	24.37	24.40	24.86	25.43
12H	4H	19.15	19.80	19.63	20.28	20.75	23.09	23.74	23.57	24.22	24.69
	6H	19.63	20.18	20.15	20.69	21.18	23.57	24.12	24.09	24.63	25.12
	8H	19.87	20.34	20.38	20.84	21.40	23.77	24.25	24.28	24.74	25.31