

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: P646694

Luminaire Tested: S123RDRP-S775D830-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2024
Report Number: P646694
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-S775D830-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

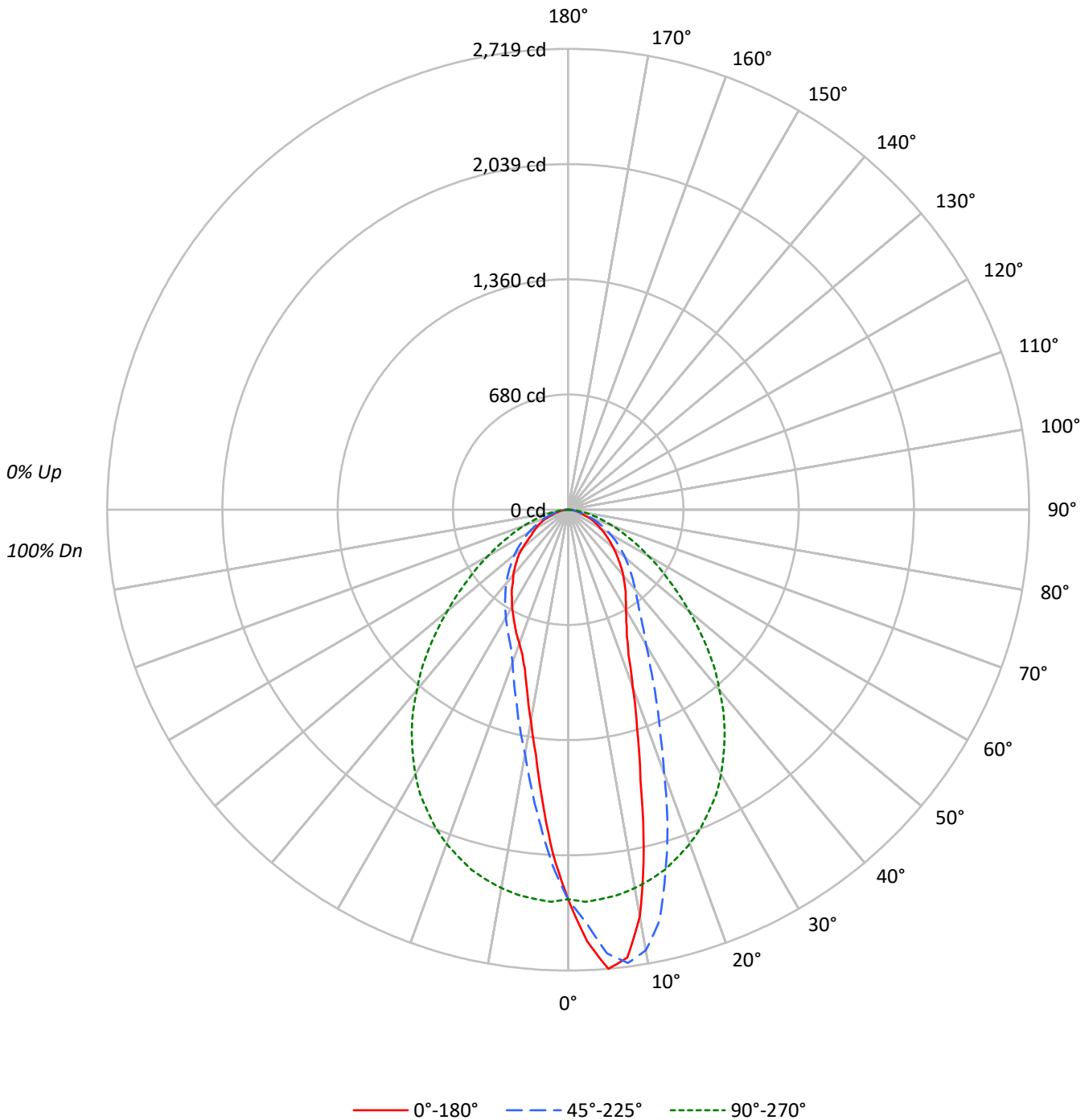
Lumens per Lamp: N/A
Luminaire Lumens: 3045.6 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 26
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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CATALOG NUMBER: S123RDRP-S775D830-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°	27700	27700	27700	27700	27700
5°	32889	31773	27873	22607	20920
10°	29798	32290	27734	17897	15487
15°	20516	27654	27442	14697	12251
20°	14273	21211	26891	12316	10768
25°	10876	16278	26090	11003	9925
30°	9468	12799	25087	10229	9192
35°	8693	10773	23666	9539	8527
40°	7932	9666	21808	8955	7916
45°	7164	8849	19804	8319	7309
50°	6503	8216	17439	7738	6555
55°	5880	7544	15167	7069	5624
60°	5270	6858	13175	6473	5316
65°	4864	6101	11342	5751	5026
70°	3953	5214	9896	5214	4083
75°	3468	4213	8380	4344	3599
80°	3136	3532	6869	3664	3400
85°	2862	3000	5212	3263	3124

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 20895 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.5	6.9
10°-20°	484.8	15.9
20°-30°	556.1	18.3
30°-40°	547.8	18.0
40°-50°	482.9	15.9
50°-60°	371.6	12.2
60°-70°	244.4	8.0
70°-80°	118.7	3.9
80°-90°	29.9	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°	1250.4	41.1
0°-40°	1798.2	59.0
0°-60°	2652.7	87.1
0°-90°	3045.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3045.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2299	2299	2299	2299	2299	
5°	2719	2627	2304	1869	1730	248
15°	1645	2217	2200	1178	982	464
25°	818	1224	1962	828	746	386
35°	591	732	1609	648	580	368
45°	420	519	1162	488	429	326
55°	280	359	722	336	268	251
65°	171	214	398	202	176	167
75°	74	90	180	93	77	80
85°	21	22	38	24	23	23
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°	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9
2.5°	2547.7	2531.7	2527.0	2521.3	2511.9	2477.9	2439.3	2443.1	2438.4	2409.1	2393.1
5°	2719.2	2721.1	2716.4	2712.6	2696.6	2655.1	2626.9	2609.9	2574.1	2519.4	2502.5
7.5°	2666.5	2696.6	2702.3	2708.9	2717.4	2707.9	2697.6	2691.0	2661.7	2602.4	2575.0
10°	2435.5	2433.6	2467.6	2494.9	2568.4	2620.3	2639.1	2666.5	2691.0	2649.5	2619.3
12.5°	2058.5	2061.3	2172.6	2172.6	2267.8	2399.7	2484.5	2542.0	2647.6	2650.4	2632.5
15°	1644.7	1690.9	1789.9	1810.6	1933.2	2110.4	2216.9	2335.6	2540.2	2604.2	2600.5
17.5°	1350.7	1370.5	1465.7	1493.0	1601.4	1802.1	1949.2	2092.4	2379.0	2513.8	2538.3
20°	1113.1	1131.1	1199.9	1220.6	1329.9	1521.3	1654.2	1808.7	2183.9	2390.3	2433.6
22.5°	929.3	964.2	1010.4	1042.5	1104.7	1299.8	1413.8	1561.8	1957.7	2251.7	2302.6
25°	818.1	834.2	873.7	888.8	964.2	1093.3	1224.4	1354.4	1756.9	2078.3	2167.8
27.5°	742.7	747.4	776.7	789.9	835.1	954.8	1049.1	1169.7	1552.4	1900.2	2004.8
30°	680.5	689.0	711.6	714.4	754.0	838.9	919.9	1031.1	1373.3	1727.7	1835.1
32.5°	632.4	637.2	656.0	661.7	687.1	754.0	820.0	901.1	1207.4	1547.7	1671.1
35°	591.0	591.9	606.1	613.6	636.2	691.8	732.4	800.2	1074.5	1398.7	1507.1
37.5°	543.8	550.4	560.8	567.4	587.2	632.4	669.2	722.0	952.0	1257.4	1358.2
40°	504.3	509.9	522.2	525.0	542.9	584.4	614.5	661.7	846.4	1121.6	1224.4
42.5°	464.7	468.4	480.7	486.4	506.1	539.1	566.5	603.2	762.5	1001.0	1101.8
45°	420.4	429.8	443.0	445.8	464.7	498.6	519.3	553.3	687.1	896.4	985.9
47.5°	383.6	388.3	399.6	404.4	426.0	456.2	477.9	507.1	622.1	801.2	888.8
50°	346.9	348.7	359.1	365.7	382.7	417.5	438.3	464.7	562.7	723.9	785.1
52.5°	312.0	316.7	327.1	331.8	343.1	378.9	397.8	425.1	506.1	644.7	706.0
55°	279.9	282.8	290.3	296.0	309.2	340.3	359.1	382.7	457.1	572.1	625.8
57.5°	249.8	253.5	259.2	263.9	276.2	303.5	322.3	345.9	410.9	506.1	547.6
60°	218.7	223.4	230.0	231.9	243.2	267.7	284.6	305.4	363.8	444.9	481.6
62.5°	196.0	197.0	202.6	205.5	212.1	231.9	249.8	269.6	321.4	385.5	415.7
65°	170.6	173.4	176.3	178.1	183.8	200.8	214.0	229.0	279.9	335.5	356.3
67.5°	144.2	147.0	151.7	153.6	158.3	169.7	181.0	196.0	238.5	285.6	304.4
70°	112.2	112.2	119.7	123.5	131.0	139.5	148.0	161.2	197.9	238.5	252.6
72.5°	91.4	92.4	93.3	93.3	99.9	114.0	118.8	127.2	156.5	195.1	207.4
75°	74.5	75.4	76.3	77.3	78.2	82.9	90.5	98.0	119.7	148.0	159.3
77.5°	59.4	60.3	61.3	61.3	63.2	65.0	66.9	70.7	85.8	106.5	115.9
80°	45.2	46.2	47.1	47.1	48.1	50.0	50.9	52.8	57.5	71.6	76.3
82.5°	33.0	33.0	33.0	33.9	34.9	34.9	36.8	36.8	39.6	43.4	46.2
85°	20.7	20.7	21.7	21.7	21.7	22.6	21.7	22.6	23.6	24.5	26.4
87.5°	9.4	8.5	9.4	9.4	9.4	10.4	10.4	10.4	10.4	11.3	11.3
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°	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9
2.5°	2348.8	2315.8	2260.2	2225.3	2212.1	2171.6	2133.0	2100.9	2084.9	2083.0	2053.8
5°	2395.0	2304.5	2189.5	2093.4	2070.8	2000.1	1908.6	1869.1	1817.2	1796.5	1772.0
7.5°	2432.7	2291.3	2121.7	1976.5	1934.1	1827.6	1710.7	1658.9	1619.3	1557.1	1520.3
10°	2459.1	2266.8	2038.7	1851.2	1790.8	1666.4	1525.0	1462.8	1426.1	1354.4	1325.2
12.5°	2469.5	2235.7	1955.8	1721.1	1668.3	1520.3	1381.8	1317.7	1263.0	1198.0	1169.7
15°	2465.7	2199.9	1870.9	1601.4	1535.4	1385.5	1238.5	1178.2	1127.3	1062.2	1025.5
17.5°	2440.2	2149.0	1778.6	1485.4	1422.3	1267.7	1118.8	1063.2	1017.9	954.8	926.5
20°	2397.8	2097.2	1697.5	1379.9	1308.2	1160.3	1019.8	960.5	920.9	886.9	866.2
22.5°	2339.4	2035.9	1598.6	1275.3	1213.1	1064.1	929.3	881.3	857.7	830.4	815.3
25°	2250.8	1962.4	1509.0	1187.6	1125.4	977.4	859.6	827.6	804.0	786.1	770.1
27.5°	2155.6	1891.7	1419.5	1099.0	1040.6	899.2	804.9	780.4	759.7	737.1	722.9
30°	2045.3	1803.1	1334.6	1020.8	964.2	836.0	757.8	735.2	718.2	693.7	679.6
32.5°	1915.2	1706.0	1255.5	945.4	892.6	781.4	714.4	689.9	675.8	652.2	638.1
35°	1780.5	1608.9	1168.8	875.6	827.6	733.3	672.0	648.5	633.4	609.8	595.7
37.5°	1648.5	1505.2	1091.5	814.4	771.0	685.2	627.7	607.9	593.8	569.3	552.3
40°	1509.0	1386.5	1016.1	756.9	716.3	642.8	587.2	569.3	550.4	528.8	511.8
42.5°	1362.9	1281.9	946.3	706.0	668.3	601.3	546.7	527.8	511.8	486.4	478.8
45°	1226.2	1162.2	872.8	652.2	622.1	559.9	507.1	488.2	470.3	448.7	441.1
47.5°	1104.7	1045.3	805.9	605.1	575.0	519.3	467.5	447.7	434.5	417.5	406.2
50°	979.3	930.3	732.4	558.9	530.7	476.0	426.0	412.8	397.8	377.0	368.5
52.5°	862.4	824.7	672.0	514.6	488.2	439.2	388.3	375.1	361.0	343.1	330.8
55°	759.7	722.0	603.2	464.7	444.9	398.7	353.5	336.5	325.2	304.4	289.4
57.5°	654.1	636.2	537.2	423.2	404.4	358.2	317.6	304.4	290.3	267.7	252.6
60°	567.4	546.7	476.0	378.0	360.1	321.4	281.8	268.6	255.4	233.8	227.2
62.5°	485.4	470.3	416.6	335.5	320.5	282.8	247.9	235.6	222.4	208.3	203.6
65°	410.9	397.8	357.2	292.2	279.9	246.9	214.9	201.7	193.2	186.6	181.9
67.5°	341.2	333.7	302.6	251.7	242.2	213.0	184.7	174.4	169.7	162.1	158.3
70°	278.1	280.9	252.6	214.9	204.5	181.0	156.5	148.0	142.3	135.7	128.2
72.5°	227.2	226.2	209.2	175.3	167.8	148.9	130.1	124.4	117.8	104.6	96.1
75°	176.3	180.0	164.0	145.2	137.6	118.8	100.9	93.3	86.7	82.0	79.2
77.5°	134.8	136.7	129.1	111.2	104.6	88.6	74.5	70.7	67.9	65.0	64.1
80°	96.1	99.0	91.4	80.1	74.5	61.3	53.7	52.8	51.8	50.0	49.0
82.5°	62.2	66.0	62.2	50.0	47.1	40.5	38.6	38.6	37.7	36.8	35.8
85°	33.9	37.7	35.8	29.2	27.3	25.4	24.5	23.6	23.6	23.6	23.6
87.5°	13.2	17.9	15.1	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
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):

	160°	170°	180°
0°	2298.9	2298.9	2298.9
2.5°	2047.2	2037.8	2034.0
5°	1765.4	1736.2	1729.6
7.5°	1509.0	1496.8	1456.2
10°	1320.5	1282.8	1265.8
12.5°	1150.8	1116.0	1110.3
15°	1015.1	990.6	982.1
17.5°	925.6	908.6	898.2
20°	859.6	847.3	839.8
22.5°	809.6	800.2	794.6
25°	765.3	751.2	746.5
27.5°	720.1	707.8	703.1
30°	677.7	667.3	660.7
32.5°	633.4	621.1	617.4
35°	591.0	583.4	579.7
37.5°	549.5	540.1	534.4
40°	510.9	506.1	503.3
42.5°	476.0	467.5	466.6
45°	439.2	430.7	428.9
47.5°	404.4	396.8	395.9
50°	367.6	357.2	349.7
52.5°	323.3	313.9	307.3
55°	283.7	273.3	267.7
57.5°	250.7	246.0	243.2
60°	225.3	222.4	220.6
62.5°	202.6	199.8	199.8
65°	181.9	179.1	176.3
67.5°	156.5	150.8	149.9
70°	125.4	116.9	115.9
72.5°	95.2	94.3	92.4
75°	79.2	77.3	77.3
77.5°	64.1	62.2	62.2
80°	49.0	48.1	49.0
82.5°	35.8	35.8	34.9
85°	23.6	22.6	22.6
87.5°	11.3	11.3	11.3
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	16.24	17.69	16.60	18.01	18.32	21.33	22.79	21.70	23.10	23.42
	3H	17.57	18.88	17.95	19.20	19.57	22.61	23.91	22.99	24.24	24.61
	4H	17.97	19.19	18.37	19.54	19.92	23.06	24.28	23.46	24.63	25.01
	6H	18.28	19.40	18.69	19.77	20.16	23.35	24.48	23.76	24.84	25.24
	8H	18.38	19.45	18.81	19.84	20.24	23.43	24.50	23.86	24.89	25.29
	12H	18.45	19.47	18.88	19.85	20.28	23.47	24.49	23.90	24.87	25.30
4H	2H	17.09	18.31	17.49	18.66	19.04	21.37	22.59	21.77	22.94	23.32
	3H	18.56	19.57	18.97	19.97	20.37	22.86	23.87	23.27	24.27	24.68
	4H	19.03	19.93	19.46	20.35	20.79	23.42	24.33	23.85	24.74	25.18
	6H	19.41	20.20	19.87	20.64	21.11	23.86	24.65	24.32	25.09	25.55
	8H	19.54	20.28	20.01	20.72	21.19	23.98	24.71	24.44	25.16	25.63
	12H	19.64	20.30	20.13	20.78	21.25	24.05	24.71	24.54	25.19	25.66
8H	4H	19.41	20.15	19.88	20.59	21.06	23.42	24.16	23.89	24.61	25.07
	6H	19.88	20.49	20.38	20.98	21.46	23.91	24.52	24.41	25.01	25.49
	8H	20.07	20.61	20.58	21.12	21.61	24.08	24.62	24.59	25.13	25.62
	12H	20.23	20.70	20.74	21.20	21.76	24.21	24.68	24.72	25.18	25.74
12H	4H	19.46	20.11	19.94	20.59	21.07	23.40	24.06	23.89	24.54	25.01
	6H	19.95	20.49	20.46	21.00	21.49	23.89	24.43	24.40	24.94	25.43
	8H	20.18	20.66	20.69	21.15	21.72	24.08	24.56	24.59	25.05	25.62