

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P834518

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834518
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

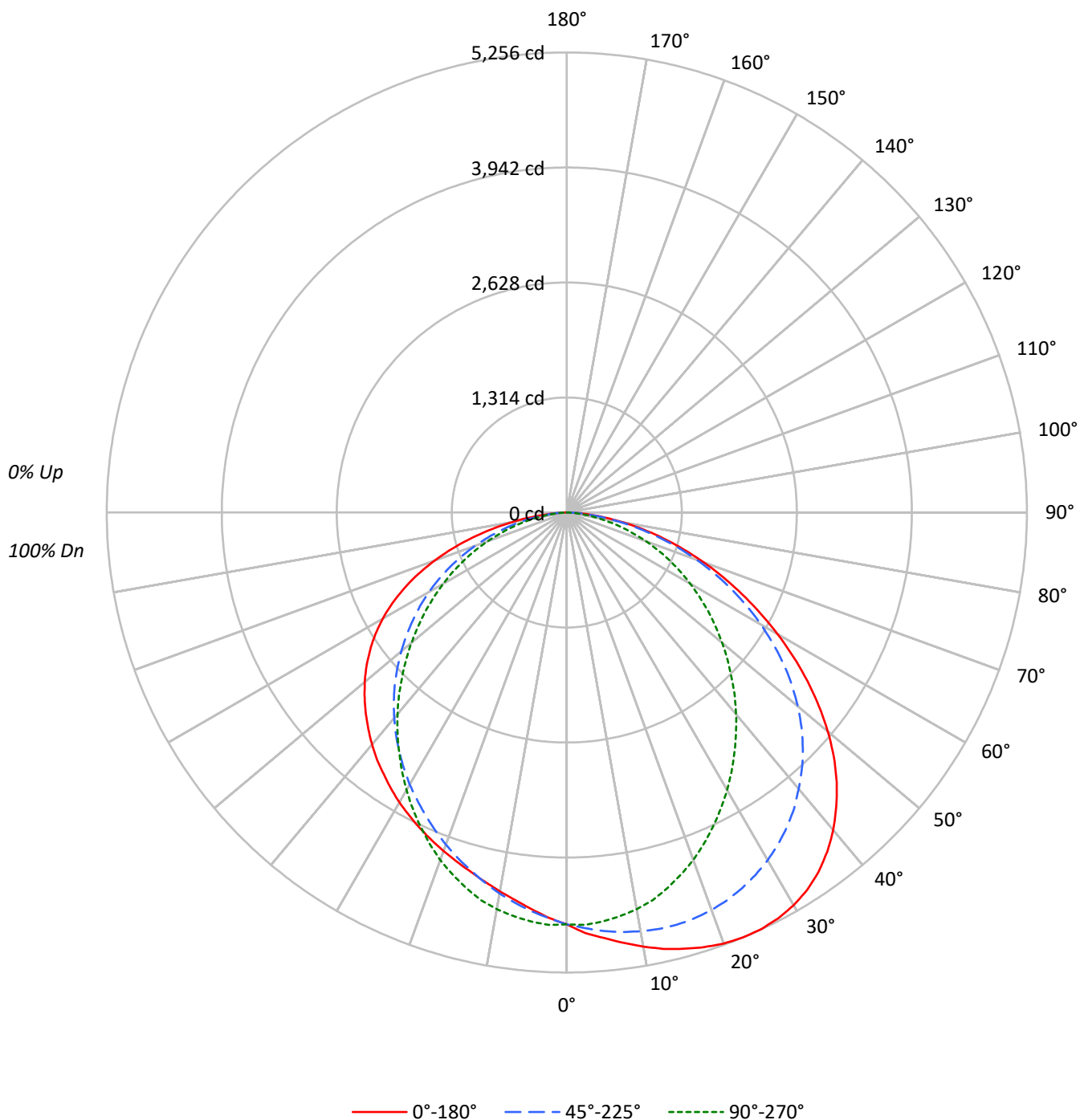
Lumens per Lamp: N/A
Luminaire Lumens: 13841.3 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 166.5
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: 28.75 FT

TEST NUMBER: P834518

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834518

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	61	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6331	6331	6331
5°	6591	6334	6147
10°	6880	6287	6005
15°	7189	6186	5918
20°	7503	6050	5894
25°	7798	5874	5903
30°	8052	5690	5941
35°	8236	5487	5991
40°	8319	5284	6079
45°	8296	5061	6178
50°	8149	4848	6306
55°	7870	4625	6437
60°	7487	4387	6535
65°	7030	4119	6526
70°	6543	3799	6332
75°	5940	3336	5839
80°	5101	2741	4925
85°	3890	1874	3382

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834518

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	446.3	3.2
10°-20°	1288.8	9.3
20°-30°	1974.4	14.3
30°-40°	2409.5	17.4
40°-50°	2519.8	18.2
50°-60°	2280.6	16.5
60°-70°	1727.2	12.5
70°-80°	962.5	7.0
80°-90°	232.2	1.7
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°	3709.5	26.8
0°-40°	6119.0	44.2
0°-60°	10919.4	78.9
0°-90°	13841.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13841.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4706	4706	4706	4706	4706	
5°	4880	4799	4690	4575	4551	471
15°	5161	4874	4441	4234	4249	1464
25°	5253	4736	3957	3817	3976	2423
35°	5014	4386	3341	3336	3647	3131
45°	4360	3814	2660	2777	3247	3354
55°	3355	3029	1972	2146	2744	2994
65°	2208	2077	1294	1471	2050	2190
75°	1143	1079	642	766	1123	1212
85°	252	222	121	162	219	303
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834518

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5
2.5°	4809.3	4786.7	4768.2	4775.4	4779.5	4765.1	4752.8	4754.8	4742.5	4766.2	4710.6
5°	4880.3	4859.7	4838.1	4846.4	4838.1	4816.5	4799.1	4793.9	4761.0	4774.4	4717.8
7.5°	4959.5	4936.9	4905.0	4914.3	4896.8	4856.7	4834.0	4820.7	4770.3	4771.3	4708.6
10°	5035.6	5016.1	4972.9	4979.1	4947.2	4893.7	4857.7	4839.2	4768.2	4757.9	4693.1
12.5°	5106.6	5079.8	5033.6	5036.7	4990.4	4919.4	4873.1	4846.4	4753.8	4723.0	4659.2
15°	5161.1	5135.4	5079.8	5078.8	5019.2	4926.6	4874.1	4837.1	4719.9	4671.5	4604.7
17.5°	5207.4	5183.7	5114.8	5112.8	5040.8	4923.5	4860.8	4814.5	4670.5	4610.8	4536.8
20°	5240.3	5216.6	5139.5	5132.3	5045.9	4908.1	4833.0	4774.4	4605.7	4534.7	4452.5
22.5°	5255.7	5232.1	5144.6	5134.4	5033.6	4877.2	4792.9	4724.0	4531.6	4439.1	4353.7
25°	5252.6	5230.0	5131.3	5121.0	5009.9	4830.9	4736.3	4657.1	4438.1	4329.0	4244.7
27.5°	5226.9	5209.4	5105.6	5092.2	4966.7	4768.2	4667.4	4580.0	4334.2	4212.8	4121.3
30°	5182.7	5169.3	5059.3	5046.9	4913.2	4699.3	4587.2	4486.4	4222.1	4085.3	3992.7
32.5°	5111.7	5099.4	4988.3	4977.0	4841.2	4610.8	4493.6	4389.7	4099.7	3948.5	3855.9
35°	5014.0	5006.8	4898.8	4886.5	4748.7	4510.1	4385.6	4271.4	3972.1	3801.4	3712.9
37.5°	4885.5	4885.5	4781.6	4768.2	4633.5	4386.6	4264.2	4142.9	3828.1	3647.1	3559.7
40°	4736.3	4749.7	4643.8	4630.4	4499.8	4253.9	4120.2	3992.7	3672.8	3484.6	3399.3
42.5°	4557.4	4569.7	4481.3	4468.9	4346.5	4100.7	3976.2	3837.4	3510.3	3319.0	3230.6
45°	4359.9	4376.3	4297.1	4287.9	4173.7	3933.1	3813.7	3672.8	3340.6	3146.2	3059.8
47.5°	4139.8	4161.4	4092.5	4087.3	3981.4	3761.3	3636.8	3493.9	3162.7	2966.2	2885.0
50°	3892.9	3923.8	3867.2	3867.2	3772.6	3553.5	3445.5	3302.6	2977.6	2781.1	2700.9
52.5°	3628.6	3667.7	3625.5	3626.6	3549.4	3353.0	3240.9	3101.0	2784.2	2590.8	2516.8
55°	3355.0	3393.1	3366.3	3370.5	3309.8	3130.8	3029.0	2890.1	2586.7	2398.5	2328.6
57.5°	3069.1	3110.2	3092.8	3101.0	3058.8	2898.4	2792.4	2671.1	2383.1	2196.9	2137.3
60°	2782.1	2821.2	2812.0	2823.3	2796.5	2657.7	2561.0	2435.5	2178.4	1999.4	1947.0
62.5°	2492.1	2528.1	2526.0	2538.4	2524.0	2408.8	2322.4	2215.4	1966.5	1802.0	1753.6
65°	2208.2	2239.1	2237.0	2250.4	2247.3	2154.7	2076.6	1978.9	1754.7	1603.5	1561.3
67.5°	1932.6	1958.3	1951.1	1966.5	1970.6	1896.6	1828.7	1741.3	1553.1	1406.0	1370.0
70°	1663.1	1680.6	1671.3	1681.6	1690.9	1635.3	1577.7	1500.6	1338.1	1208.5	1178.7
72.5°	1398.8	1411.1	1396.7	1407.0	1415.2	1375.1	1327.8	1261.0	1126.2	1014.1	989.4
75°	1142.7	1160.2	1130.3	1140.6	1146.8	1106.7	1078.9	1024.4	908.2	821.8	805.3
77.5°	894.8	905.1	888.6	884.5	888.6	859.8	838.2	796.1	708.6	637.7	627.4
80°	658.3	664.4	648.0	643.9	646.9	626.4	609.9	579.1	517.3	463.9	459.7
82.5°	441.2	444.3	429.9	425.8	427.9	421.7	402.2	380.6	351.8	306.5	305.5
85°	252.0	252.0	241.7	237.6	239.6	229.4	222.2	210.8	199.5	168.7	170.7
87.5°	92.6	92.6	87.4	86.4	96.7	85.4	82.3	77.1	80.2	63.8	67.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834518

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5	4705.5
2.5°	4726.0	4715.8	4706.5	4674.6	4688.0	4655.1	4653.0	4640.7	4631.4	4613.9	4636.6
5°	4710.6	4690.0	4663.3	4625.2	4636.6	4597.5	4589.2	4574.8	4562.5	4539.9	4557.4
7.5°	4685.9	4652.0	4609.8	4561.5	4576.9	4528.6	4516.2	4500.8	4490.5	4463.8	4479.2
10°	4649.9	4601.6	4552.2	4493.6	4504.9	4452.5	4437.0	4420.6	4411.3	4387.7	4403.1
12.5°	4594.4	4535.8	4468.9	4405.1	4417.5	4368.1	4347.5	4330.1	4327.0	4307.4	4325.9
15°	4522.4	4441.1	4372.2	4304.3	4318.7	4261.1	4251.9	4234.4	4239.5	4226.2	4248.8
17.5°	4430.9	4337.3	4262.2	4189.2	4203.6	4155.2	4148.0	4139.8	4144.9	4142.9	4167.6
20°	4328.0	4225.2	4138.8	4066.8	4075.0	4036.9	4040.0	4038.0	4048.2	4059.6	4093.5
22.5°	4211.8	4095.6	4005.0	3931.0	3943.3	3910.4	3924.8	3928.9	3946.4	3972.1	4015.3
25°	4081.2	3956.7	3862.1	3792.1	3803.5	3781.9	3806.5	3816.8	3844.6	3887.8	3932.0
27.5°	3944.4	3812.7	3711.9	3645.1	3666.7	3645.1	3682.1	3702.7	3744.8	3792.1	3846.7
30°	3799.3	3662.6	3558.7	3499.0	3519.6	3500.0	3559.7	3587.5	3629.6	3694.4	3759.2
32.5°	3647.1	3503.1	3401.3	3355.0	3369.4	3366.3	3433.2	3464.0	3520.6	3594.7	3663.6
35°	3490.8	3340.6	3237.8	3198.7	3216.2	3220.3	3300.5	3336.5	3398.2	3487.7	3561.8
37.5°	3329.3	3176.1	3075.3	3043.4	3058.8	3074.2	3167.8	3203.8	3273.8	3371.5	3452.7
40°	3161.7	3008.4	2909.7	2884.0	2899.4	2915.8	3017.7	3067.0	3143.2	3249.1	3337.5
42.5°	2992.0	2838.7	2743.1	2724.5	2740.0	2771.9	2879.8	2926.1	3006.4	3123.6	3221.3
45°	2819.2	2659.7	2576.4	2562.0	2578.5	2615.5	2721.5	2777.0	2862.4	2990.9	3095.8
47.5°	2644.3	2489.0	2409.8	2400.6	2417.0	2458.2	2575.4	2625.8	2716.3	2853.1	2966.2
50°	2467.4	2316.2	2240.1	2237.0	2252.5	2296.7	2408.8	2468.4	2562.0	2715.3	2831.5
52.5°	2288.5	2143.4	2074.5	2074.5	2088.9	2134.2	2247.3	2309.0	2405.7	2567.2	2695.7
55°	2109.5	1971.7	1905.8	1911.0	1931.6	1970.6	2080.7	2145.5	2243.2	2410.8	2546.6
57.5°	1930.5	1799.9	1740.3	1747.5	1767.0	1806.1	1914.1	1987.1	2075.5	2249.4	2388.2
60°	1753.6	1630.2	1577.7	1586.0	1603.5	1642.5	1754.7	1817.4	1905.8	2082.7	2221.6
62.5°	1574.7	1462.6	1413.2	1423.5	1438.9	1478.0	1583.9	1644.6	1732.0	1905.8	2045.7
65°	1397.8	1293.9	1251.7	1262.0	1276.4	1312.4	1412.2	1470.8	1554.1	1723.8	1857.5
67.5°	1222.9	1128.3	1093.3	1103.6	1114.9	1148.9	1231.1	1294.9	1373.1	1534.5	1661.1
70°	1050.1	965.8	934.9	945.2	955.5	986.3	1058.3	1117.0	1189.0	1337.1	1454.3
72.5°	879.4	797.1	781.7	790.9	799.2	825.9	894.8	941.1	1003.8	1135.5	1236.3
75°	712.8	641.8	631.5	640.8	648.0	668.5	726.1	766.2	818.7	932.9	1015.1
77.5°	552.3	492.7	488.5	495.7	502.9	517.3	562.6	604.8	645.9	730.2	803.3
80°	402.2	353.8	353.8	361.0	359.0	376.4	408.3	442.3	472.1	532.8	586.3
82.5°	265.4	227.3	232.4	237.6	240.7	247.9	267.4	293.1	311.6	348.7	383.6
85°	147.1	121.4	126.5	130.6	128.6	136.8	147.1	162.5	171.8	189.2	207.8
87.5°	54.5	45.3	46.3	49.4	51.4	55.5	55.5	64.8	65.8	67.9	72.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834518

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	4705.5	4705.5	4705.5
2.5°	4593.4	4618.0	4636.6
5°	4514.2	4534.7	4551.2
7.5°	4437.0	4455.5	4469.9
10°	4364.0	4384.6	4394.9
12.5°	4288.9	4312.6	4320.8
15°	4214.9	4238.5	4248.8
17.5°	4138.8	4169.6	4180.9
20°	4067.8	4106.9	4116.1
22.5°	3995.8	4035.9	4047.2
25°	3917.6	3964.9	3976.2
27.5°	3834.3	3890.9	3902.2
30°	3751.0	3812.7	3824.0
32.5°	3661.5	3728.4	3738.7
35°	3567.9	3634.8	3647.1
37.5°	3464.0	3537.1	3561.8
40°	3356.1	3435.2	3461.0
42.5°	3242.9	3329.3	3356.1
45°	3121.6	3216.2	3247.0
47.5°	2999.2	3106.1	3132.9
50°	2866.5	2980.6	3012.5
52.5°	2727.6	2852.1	2884.0
55°	2583.6	2709.1	2744.1
57.5°	2427.3	2556.9	2593.9
60°	2263.8	2393.4	2428.3
62.5°	2096.1	2213.4	2247.3
65°	1908.9	2019.0	2049.8
67.5°	1710.4	1811.2	1836.9
70°	1499.6	1587.0	1609.6
72.5°	1279.5	1340.2	1370.0
75°	1052.2	1100.5	1123.1
77.5°	823.8	857.8	876.3
80°	600.7	620.2	635.6
82.5°	392.9	401.1	412.4
85°	211.9	211.9	219.1
87.5°	72.0	68.9	72.0
90°	0.0	0.0	0.0

(END OF REPORT)