

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P562576

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562576
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-2HI-40-UNV-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

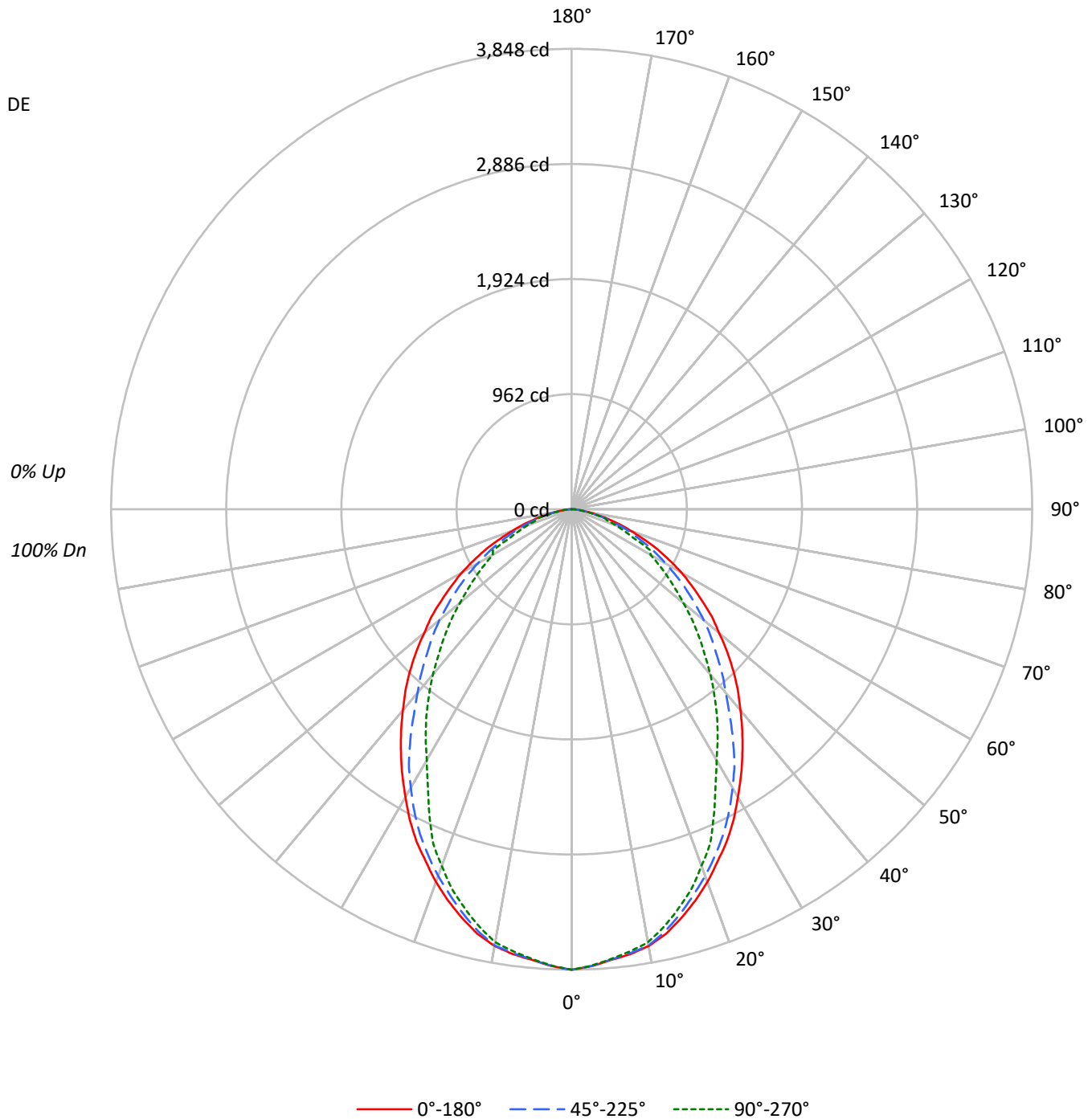
Lumens per Lamp: N/A
Luminaire Lumens: 7555.0 lumens
Efficiency: N/A
Efficacy: 87.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V):
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5178	5178	5178
5°	5108	5102	5096
10°	5063	5057	5021
15°	4927	4877	4809
20°	4746	4669	4542
25°	4551	4452	4174
30°	4313	4175	3760
35°	4085	3858	3478
40°	3853	3517	3165
45°	3632	3251	2861
50°	3362	3017	2552
55°	3110	2734	2286
60°	2849	2442	2047
65°	2507	2139	1813
70°	2065	1873	1540
75°	1642	1434	1503
80°	1103	1034	965
85°	687	824	962

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3632 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.2	4.7
10°-20°	983.1	13.0
20°-30°	1361.1	18.0
30°-40°	1451.3	19.2
40°-50°	1324.0	17.5
50°-60°	1037.3	13.7
60°-70°	676.1	8.9
70°-80°	299.5	4.0
80°-90°	64.3	0.9
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°	2702.5	35.8
0°-40°	4153.8	55.0
0°-60°	6515.1	86.2
0°-90°	7555.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7555.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3848	3848	3848	3848	3848	
5°	3782	3777	3777	3773	3773	359
15°	3537	3537	3501	3466	3452	994
25°	3065	3048	2999	2892	2812	1407
35°	2487	2469	2349	2171	2118	1555
45°	1909	1869	1708	1566	1504	1470
55°	1326	1286	1166	1028	974	1189
65°	788	743	672	685	570	776
75°	316	294	276	262	289	339
85°	44	49	53	58	62	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3848.4	3848.4	3848.4	3848.4	3848.4
2.5°	3821.7	3821.7	3821.7	3817.3	3817.3
5°	3781.7	3777.2	3777.2	3772.8	3772.8
7.5°	3750.5	3746.1	3741.6	3737.2	3728.3
10°	3706.0	3706.0	3701.6	3679.4	3674.9
12.5°	3634.9	3630.4	3612.6	3581.5	3572.6
15°	3537.0	3537.0	3501.4	3465.8	3452.5
17.5°	3430.2	3425.8	3381.3	3345.7	3327.9
20°	3314.5	3305.6	3261.1	3203.3	3172.2
22.5°	3185.5	3185.5	3132.1	3056.5	3025.3
25°	3065.4	3047.6	2998.7	2891.9	2811.8
27.5°	2927.5	2900.8	2847.4	2696.1	2602.7
30°	2776.2	2762.9	2687.2	2491.5	2420.3
32.5°	2633.8	2611.6	2531.5	2326.8	2269.0
35°	2487.0	2469.2	2349.1	2171.1	2117.7
37.5°	2340.2	2317.9	2166.7	2024.3	1957.6
40°	2193.4	2166.7	2002.1	1873.0	1801.9
42.5°	2055.5	2019.9	1859.7	1721.8	1641.7
45°	1908.6	1868.6	1708.4	1566.1	1503.8
47.5°	1761.8	1726.2	1579.4	1432.6	1361.4
50°	1606.1	1575.0	1441.5	1294.7	1219.0
52.5°	1477.1	1428.1	1299.1	1152.3	1090.0
55°	1325.8	1285.8	1165.6	1027.7	974.3
57.5°	1187.9	1147.9	1036.6	907.6	863.1
60°	1058.9	1001.0	907.6	796.4	760.8
62.5°	916.5	872.0	791.9	698.5	743.0
65°	787.5	743.0	671.8	685.2	569.5
67.5°	645.1	622.9	560.6	498.3	480.5
70°	525.0	498.3	476.0	409.3	391.5
72.5°	418.2	391.5	360.4	324.8	311.4
75°	315.9	293.6	275.8	262.5	289.2
77.5°	218.0	209.1	195.8	182.4	178.0
80°	142.4	137.9	133.5	129.0	124.6
82.5°	84.5	84.5	84.5	84.5	84.5
85°	44.5	48.9	53.4	57.8	62.3
87.5°	26.7	26.7	31.1	35.6	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)