

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: P563742

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-82-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563742
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-LD4-4HI-40-UNV-82-97-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14752.0 lumens
Efficiency: N/A
Efficacy: 85.4 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

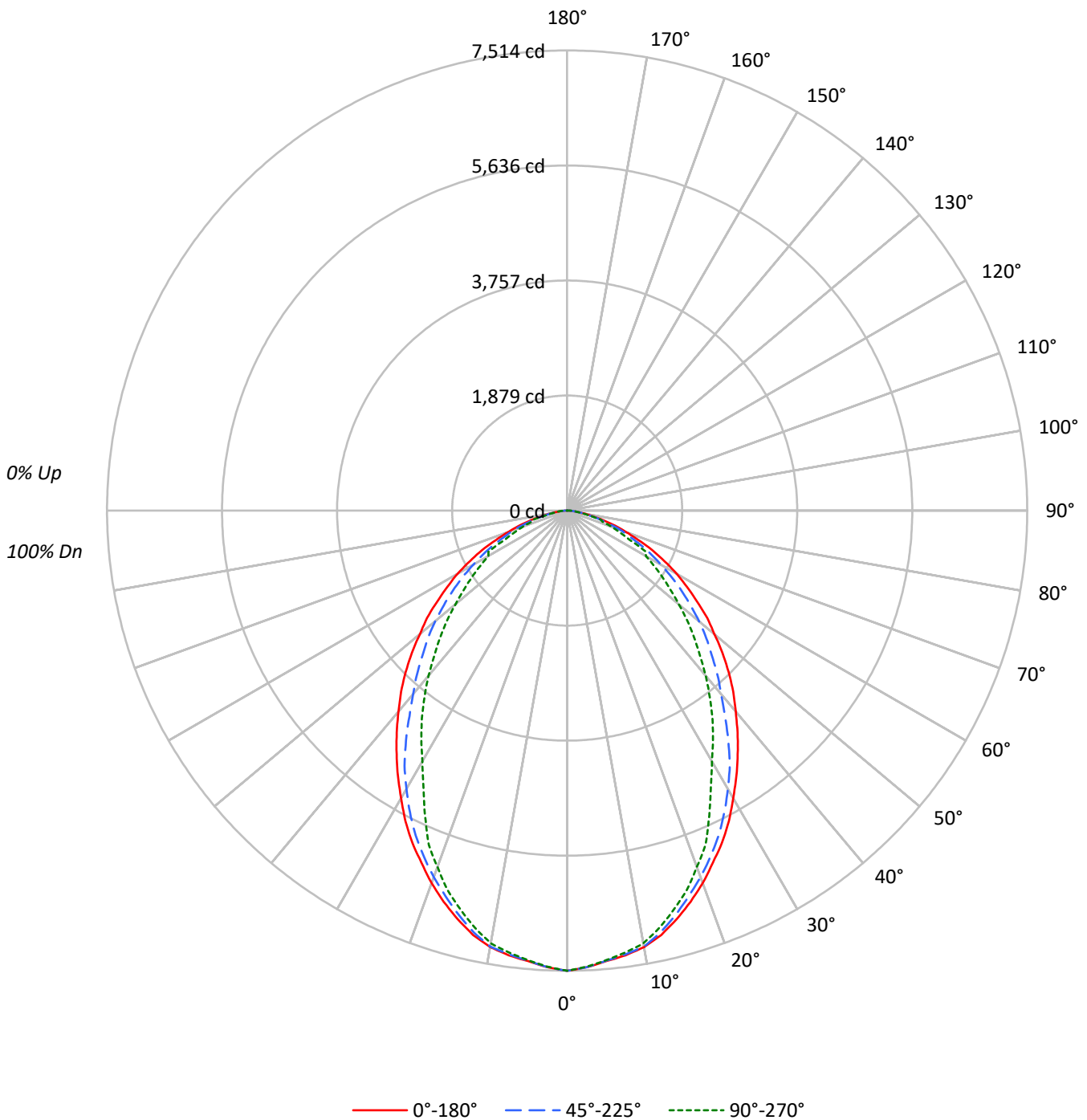
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10111	10111	10111
5°	9973	9962	9950
10°	9887	9875	9804
15°	9620	9523	9390
20°	9267	9118	8869
25°	8886	8693	8151
30°	8422	8152	7342
35°	7976	7534	6792
40°	7522	6866	6180
45°	7091	6348	5587
50°	6565	5892	4982
55°	6073	5339	4463
60°	5564	4769	3997
65°	4895	4176	3540
70°	4033	3657	3008
75°	3206	2800	2936
80°	2154	2019	1884
85°	1342	1609	1877

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7091 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	699.5	4.7
10°-20°	1919.7	13.0
20°-30°	2657.7	18.0
30°-40°	2833.9	19.2
40°-50°	2585.3	17.5
50°-60°	2025.4	13.7
60°-70°	1320.1	8.9
70°-80°	584.8	4.0
80°-90°	125.6	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°	5276.9	35.8
0°-40°	8110.8	55.0
0°-60°	12721.5	86.2
0°-90°	14752.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14752.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7514	7514	7514	7514	7514	
5°	7384	7376	7376	7367	7367	701
15°	6906	6906	6837	6767	6741	1942
25°	5986	5951	5855	5647	5490	2748
35°	4856	4821	4587	4239	4135	3036
45°	3727	3649	3336	3058	2936	2871
55°	2589	2511	2276	2007	1902	2322
65°	1538	1451	1312	1338	1112	1515
75°	617	573	539	512	565	661
85°	87	96	104	113	122	121
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7514.5	7514.5	7514.5	7514.5	7514.5
2.5°	7462.3	7462.3	7462.3	7453.7	7453.7
5°	7384.2	7375.5	7375.5	7366.8	7366.8
7.5°	7323.4	7314.7	7306.0	7297.3	7279.9
10°	7236.5	7236.5	7227.8	7184.4	7175.7
12.5°	7097.5	7088.8	7054.0	6993.2	6975.9
15°	6906.4	6906.4	6836.9	6767.4	6741.3
17.5°	6697.9	6689.2	6602.3	6532.8	6498.1
20°	6472.0	6454.6	6367.8	6254.8	6194.0
22.5°	6220.1	6220.1	6115.8	5968.1	5907.3
25°	5985.5	5950.8	5855.2	5646.7	5490.3
27.5°	5716.2	5664.1	5559.8	5264.5	5082.0
30°	5420.8	5394.8	5247.1	4864.9	4725.9
32.5°	5142.9	5099.4	4943.0	4543.4	4430.5
35°	4856.2	4821.4	4586.9	4239.4	4135.1
37.5°	4569.5	4526.1	4230.7	3952.7	3822.4
40°	4282.8	4230.7	3909.3	3657.3	3518.3
42.5°	4013.5	3944.0	3631.3	3362.0	3205.6
45°	3726.8	3648.6	3335.9	3057.9	2936.3
47.5°	3440.2	3370.7	3084.0	2797.3	2658.3
50°	3136.1	3075.3	2814.7	2528.0	2380.3
52.5°	2884.2	2788.6	2536.7	2250.0	2128.4
55°	2588.8	2510.6	2276.1	2006.8	1902.5
57.5°	2319.5	2241.3	2024.1	1772.2	1685.3
60°	2067.6	1954.6	1772.2	1555.0	1485.5
62.5°	1789.6	1702.7	1546.3	1363.9	1450.8
65°	1537.6	1450.8	1311.8	1337.8	1112.0
67.5°	1259.7	1216.2	1094.6	973.0	938.2
70°	1025.1	973.0	929.5	799.2	764.5
72.5°	816.6	764.5	703.7	634.2	608.1
75°	616.8	573.4	538.6	512.5	564.7
77.5°	425.7	408.3	382.2	356.2	347.5
80°	278.0	269.3	260.6	251.9	243.2
82.5°	165.1	165.1	165.1	165.1	165.1
85°	86.9	95.6	104.2	112.9	121.6
87.5°	52.1	52.1	60.8	69.5	78.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)