

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: P563647

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-80-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563647
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-35-UNV-80-97-EDD
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

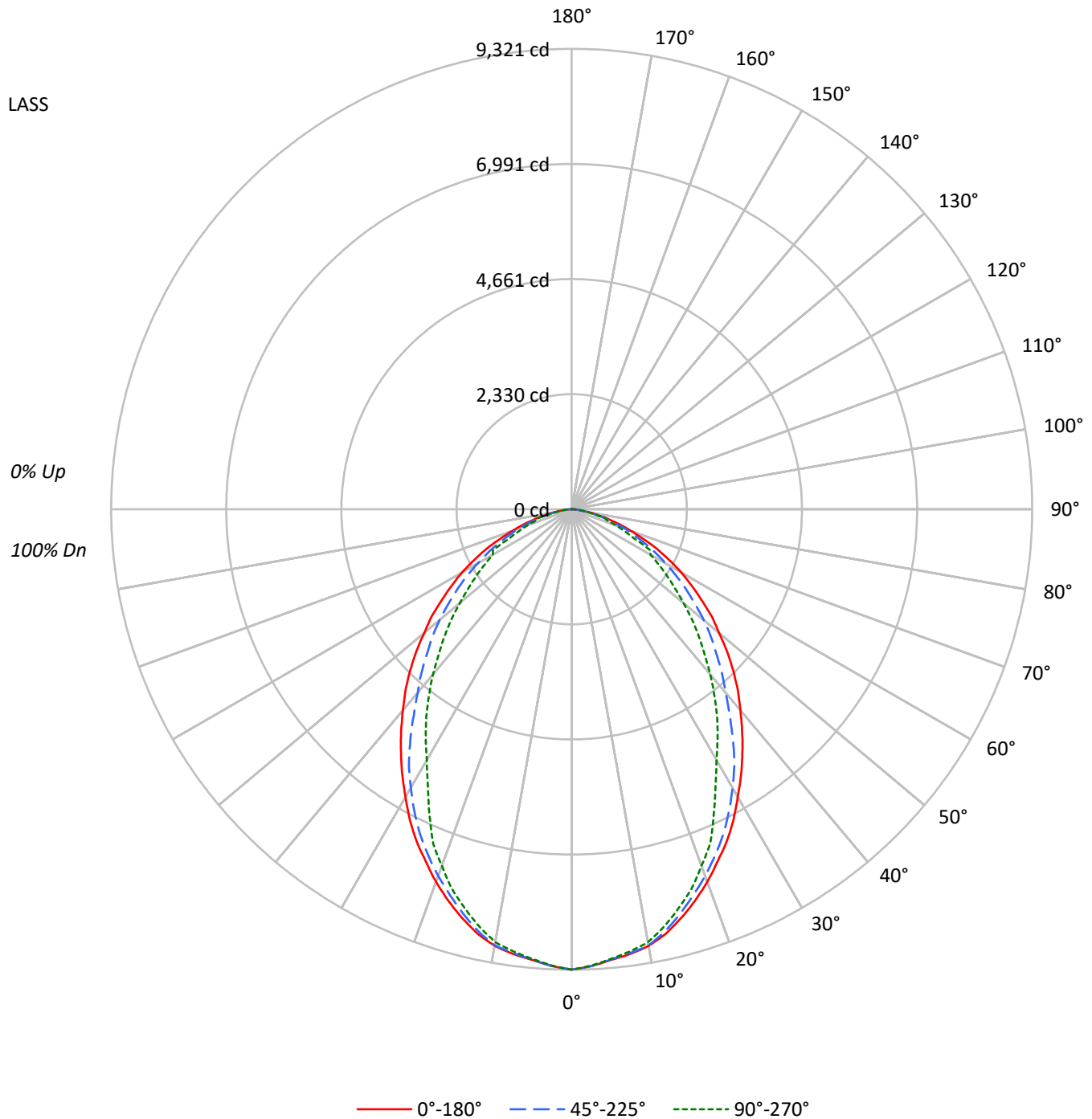
Lumens per Lamp: N/A
Luminaire Lumens: 18298.0 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12541	12541	12541
5°	12371	12356	12342
10°	12263	12249	12160
15°	11933	11813	11647
20°	11494	11309	11001
25°	11022	10782	10110
30°	10447	10112	9107
35°	9894	9345	8425
40°	9331	8517	7665
45°	8796	7873	6930
50°	8142	7308	6180
55°	7533	6623	5536
60°	6901	5915	4958
65°	6072	5180	4391
70°	5002	4536	3730
75°	3977	3473	3641
80°	2672	2505	2338
85°	1664	1996	2330

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8796 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	867.6	4.7
10°-20°	2381.2	13.0
20°-30°	3296.5	18.0
30°-40°	3515.1	19.2
40°-50°	3206.8	17.5
50°-60°	2512.3	13.7
60°-70°	1637.4	8.9
70°-80°	725.4	4.0
80°-90°	155.7	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°	6545.3	35.8
0°-40°	10060.4	55.0
0°-60°	15779.5	86.2
0°-90°	18298.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18298.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9321	9321	9321	9321	9321	
5°	9159	9148	9148	9138	9138	869
15°	8566	8566	8480	8394	8362	2408
25°	7424	7381	7263	7004	6810	3408
35°	6024	5980	5689	5258	5129	3766
45°	4623	4526	4138	3793	3642	3561
55°	3211	3114	2823	2489	2360	2880
65°	1907	1800	1627	1659	1379	1880
75°	765	711	668	636	700	820
85°	108	118	129	140	151	149
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9320.8	9320.8	9320.8	9320.8	9320.8
2.5°	9256.1	9256.1	9256.1	9245.3	9245.3
5°	9159.1	9148.3	9148.3	9137.6	9137.6
7.5°	9083.7	9072.9	9062.1	9051.4	9029.8
10°	8975.9	8975.9	8965.2	8911.3	8900.5
12.5°	8803.5	8792.8	8749.7	8674.2	8652.7
15°	8566.5	8566.5	8480.3	8394.1	8361.7
17.5°	8307.9	8297.1	8189.3	8103.1	8060.0
20°	8027.7	8006.2	7898.4	7758.3	7682.9
22.5°	7715.2	7715.2	7585.9	7402.7	7327.3
25°	7424.3	7381.2	7262.6	7004.0	6810.1
27.5°	7090.2	7025.6	6896.3	6529.9	6303.6
30°	6723.9	6691.5	6508.4	6034.2	5861.8
32.5°	6379.1	6325.2	6131.2	5635.6	5495.5
35°	6023.5	5980.4	5689.4	5258.4	5129.1
37.5°	5667.9	5614.0	5247.6	4902.8	4741.2
40°	5312.3	5247.6	4848.9	4536.5	4364.1
42.5°	4978.3	4892.1	4504.1	4170.1	3976.1
45°	4622.7	4525.7	4137.8	3793.0	3642.1
47.5°	4267.1	4180.9	3825.3	3469.7	3297.3
50°	3889.9	3814.5	3491.2	3135.7	2952.5
52.5°	3577.4	3458.9	3146.4	2790.8	2640.0
55°	3211.1	3114.1	2823.2	2489.1	2359.8
57.5°	2877.0	2780.1	2510.7	2198.2	2090.4
60°	2564.6	2424.5	2198.2	1928.8	1842.6
62.5°	2219.7	2112.0	1918.0	1691.7	1799.5
65°	1907.3	1799.5	1627.1	1659.4	1379.3
67.5°	1562.4	1508.6	1357.7	1206.8	1163.7
70°	1271.5	1206.8	1153.0	991.3	948.2
72.5°	1012.9	948.2	872.8	786.6	754.3
75°	765.1	711.2	668.1	635.8	700.4
77.5°	528.0	506.4	474.1	441.8	431.0
80°	344.8	334.0	323.3	312.5	301.7
82.5°	204.7	204.7	204.7	204.7	204.7
85°	107.8	118.5	129.3	140.1	150.9
87.5°	64.7	64.7	75.4	86.2	97.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)