

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: P563715

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563715
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-81-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18006.0 lumens
Efficiency: N/A
Efficacy: 104.2 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

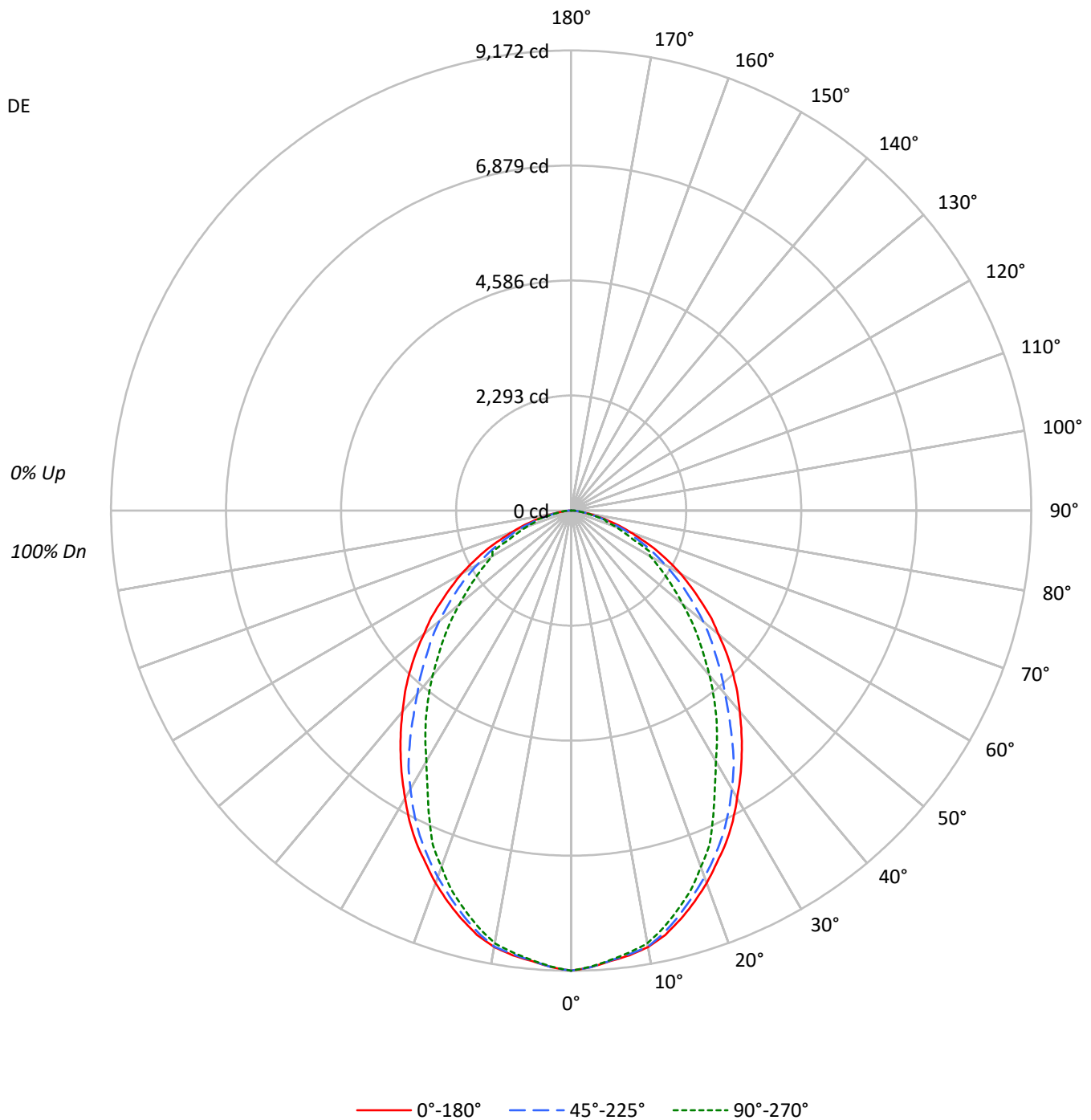
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	12341	12341	12341
5°	12173	12159	12145
10°	12068	12053	11966
15°	11742	11624	11462
20°	11311	11129	10825
25°	10846	10610	9949
30°	10280	9950	8962
35°	9736	9196	8290
40°	9182	8381	7543
45°	8656	7748	6820
50°	8013	7191	6082
55°	7412	6517	5447
60°	6791	5821	4879
65°	5975	5097	4321
70°	4922	4463	3671
75°	3913	3418	3583
80°	2629	2465	2300
85°	1636	1964	2291

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8656 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	853.8	4.7
10°-20°	2343.2	13.0
20°-30°	3243.9	18.0
30°-40°	3459.0	19.2
40°-50°	3155.6	17.5
50°-60°	2472.2	13.7
60°-70°	1611.2	8.9
70°-80°	713.8	4.0
80°-90°	153.3	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°	6440.9	35.8
0°-40°	9899.9	55.0
0°-60°	15527.6	86.2
0°-90°	18006.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18006.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9172	9172	9172	9172	9172	
5°	9013	9002	9002	8992	8992	856
15°	8430	8430	8345	8260	8228	2370
25°	7306	7263	7147	6892	6701	3354
35°	5927	5885	5599	5174	5047	3706
45°	4549	4454	4072	3732	3584	3504
55°	3160	3064	2778	2449	2322	2834
65°	1877	1771	1601	1633	1357	1850
75°	753	700	657	626	689	807
85°	106	117	127	138	148	147
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9172.0	9172.0	9172.0	9172.0	9172.0
2.5°	9108.4	9108.4	9108.4	9097.8	9097.8
5°	9013.0	9002.4	9002.4	8991.8	8991.8
7.5°	8938.7	8928.1	8917.5	8906.9	8885.7
10°	8832.7	8832.7	8822.1	8769.1	8758.5
12.5°	8663.0	8652.4	8610.0	8535.8	8514.6
15°	8429.8	8429.8	8344.9	8260.1	8228.3
17.5°	8175.3	8164.7	8058.6	7973.8	7931.4
20°	7899.6	7878.4	7772.4	7634.5	7560.3
22.5°	7592.1	7592.1	7464.9	7284.6	7210.4
25°	7305.8	7263.4	7146.7	6892.3	6701.4
27.5°	6977.1	6913.5	6786.2	6425.7	6203.0
30°	6616.6	6584.8	6404.5	5938.0	5768.3
32.5°	6277.3	6224.2	6033.4	5545.6	5407.8
35°	5927.3	5884.9	5598.6	5174.5	5047.3
37.5°	5577.4	5524.4	5163.9	4824.6	4665.5
40°	5227.5	5163.9	4771.6	4464.1	4294.4
42.5°	4898.8	4814.0	4432.3	4103.5	3912.7
45°	4548.9	4453.5	4071.7	3732.4	3584.0
47.5°	4199.0	4114.2	3764.2	3414.3	3244.7
50°	3827.9	3753.6	3435.5	3085.6	2905.4
52.5°	3520.4	3403.7	3096.2	2746.3	2597.9
55°	3159.8	3064.4	2778.1	2449.4	2322.2
57.5°	2831.1	2735.7	2470.6	2163.1	2057.1
60°	2523.6	2385.8	2163.1	1898.0	1813.2
62.5°	2184.3	2078.3	1887.4	1664.7	1770.8
65°	1876.8	1770.8	1601.1	1632.9	1357.2
67.5°	1537.5	1484.5	1336.0	1187.6	1145.2
70°	1251.2	1187.6	1134.6	975.5	933.1
72.5°	996.7	933.1	858.9	774.1	742.2
75°	752.8	699.8	657.4	625.6	689.2
77.5°	519.6	498.4	466.6	434.7	424.1
80°	339.3	328.7	318.1	307.5	296.9
82.5°	201.5	201.5	201.5	201.5	201.5
85°	106.0	116.6	127.2	137.8	148.4
87.5°	63.6	63.6	74.2	84.8	95.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)