

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: P563720

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563720
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-81-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13033.0 lumens
Efficiency: N/A
Efficacy: 75.4 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

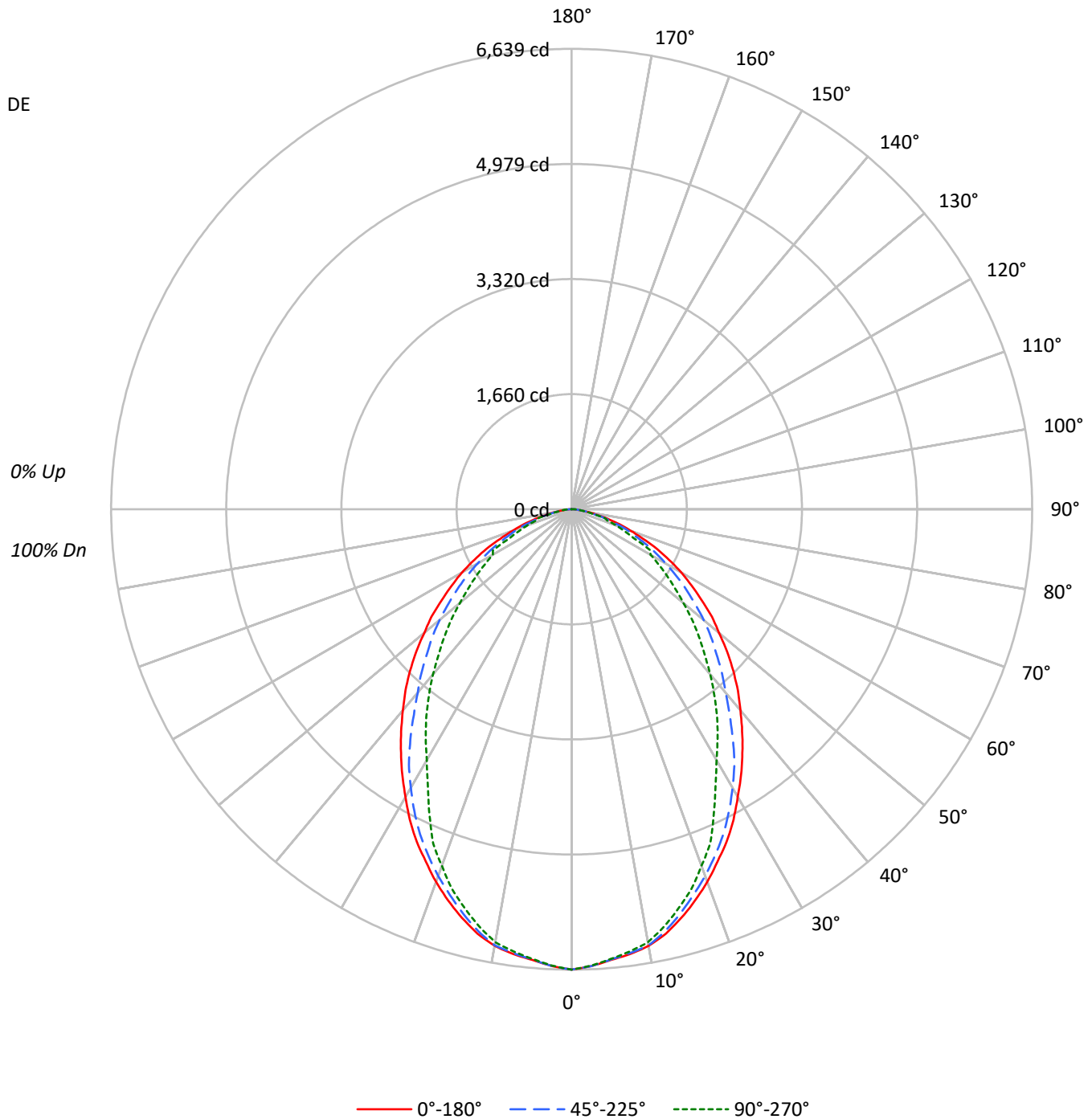
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8932	8932	8932
5°	8811	8801	8790
10°	8735	8724	8661
15°	8499	8414	8296
20°	8187	8055	7835
25°	7850	7680	7201
30°	7441	7202	6487
35°	7047	6656	6001
40°	6646	6066	5460
45°	6265	5608	4936
50°	5800	5205	4402
55°	5365	4717	3943
60°	4915	4213	3532
65°	4325	3690	3128
70°	3563	3231	2657
75°	2833	2473	2594
80°	1903	1784	1665
85°	1184	1422	1658

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6265 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	618.0	4.7
10°-20°	1696.0	13.0
20°-30°	2348.0	18.0
30°-40°	2503.7	19.2
40°-50°	2284.1	17.5
50°-60°	1789.4	13.7
60°-70°	1166.2	8.9
70°-80°	516.7	4.0
80°-90°	110.9	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°	4662.0	35.8
0°-40°	7165.7	55.0
0°-60°	11239.1	86.2
0°-90°	13033.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13033.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6639	6639	6639	6639	6639	
5°	6524	6516	6516	6508	6508	619
15°	6102	6102	6040	5979	5956	1715
25°	5288	5257	5173	4989	4851	2428
35°	4290	4260	4052	3745	3653	2682
45°	3293	3224	2947	2702	2594	2536
55°	2287	2218	2011	1773	1681	2051
65°	1358	1282	1159	1182	982	1339
75°	545	506	476	453	499	584
85°	77	84	92	100	107	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6638.8	6638.8	6638.8	6638.8	6638.8
2.5°	6592.8	6592.8	6592.8	6585.1	6585.1
5°	6523.7	6516.0	6516.0	6508.4	6508.4
7.5°	6470.0	6462.3	6454.6	6447.0	6431.6
10°	6393.2	6393.2	6385.6	6347.2	6339.5
12.5°	6270.4	6262.8	6232.1	6178.3	6163.0
15°	6101.6	6101.6	6040.2	5978.8	5955.8
17.5°	5917.4	5909.7	5833.0	5771.6	5740.9
20°	5717.8	5702.5	5625.7	5526.0	5472.2
22.5°	5495.3	5495.3	5403.2	5272.7	5219.0
25°	5288.0	5257.3	5172.9	4988.7	4850.6
27.5°	5050.1	5004.1	4912.0	4651.0	4489.8
30°	4789.2	4766.1	4635.7	4298.0	4175.2
32.5°	4543.6	4505.2	4367.0	4014.0	3914.2
35°	4290.3	4259.6	4052.4	3745.4	3653.3
37.5°	4037.0	3998.7	3737.7	3492.1	3377.0
40°	3783.8	3737.7	3453.7	3231.2	3108.4
42.5°	3545.8	3484.4	3208.1	2970.2	2832.1
45°	3292.6	3223.5	2947.2	2701.6	2594.1
47.5°	3039.3	2977.9	2724.6	2471.3	2348.5
50°	2770.7	2716.9	2486.7	2233.4	2102.9
52.5°	2548.1	2463.7	2241.1	1987.8	1880.4
55°	2287.1	2218.1	2010.8	1772.9	1680.8
57.5°	2049.2	1980.1	1788.3	1565.7	1488.9
60°	1826.6	1726.9	1565.7	1373.8	1312.4
62.5°	1581.0	1504.3	1366.1	1205.0	1281.7
65°	1358.5	1281.7	1158.9	1181.9	982.4
67.5°	1112.9	1074.5	967.0	859.6	828.9
70°	905.6	859.6	821.2	706.1	675.4
72.5°	721.4	675.4	621.7	560.3	537.2
75°	544.9	506.5	475.8	452.8	498.9
77.5°	376.1	360.7	337.7	314.7	307.0
80°	245.6	237.9	230.2	222.6	214.9
82.5°	145.8	145.8	145.8	145.8	145.8
85°	76.7	84.4	92.1	99.8	107.4
87.5°	46.0	46.0	53.7	61.4	69.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)