

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: P563736

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563736
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-82-88-EDD-90
Description: 2X4 FSR TROFFER WITH .187 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: 12759.0 lumens
Efficiency: N/A
Efficacy: 73.8 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

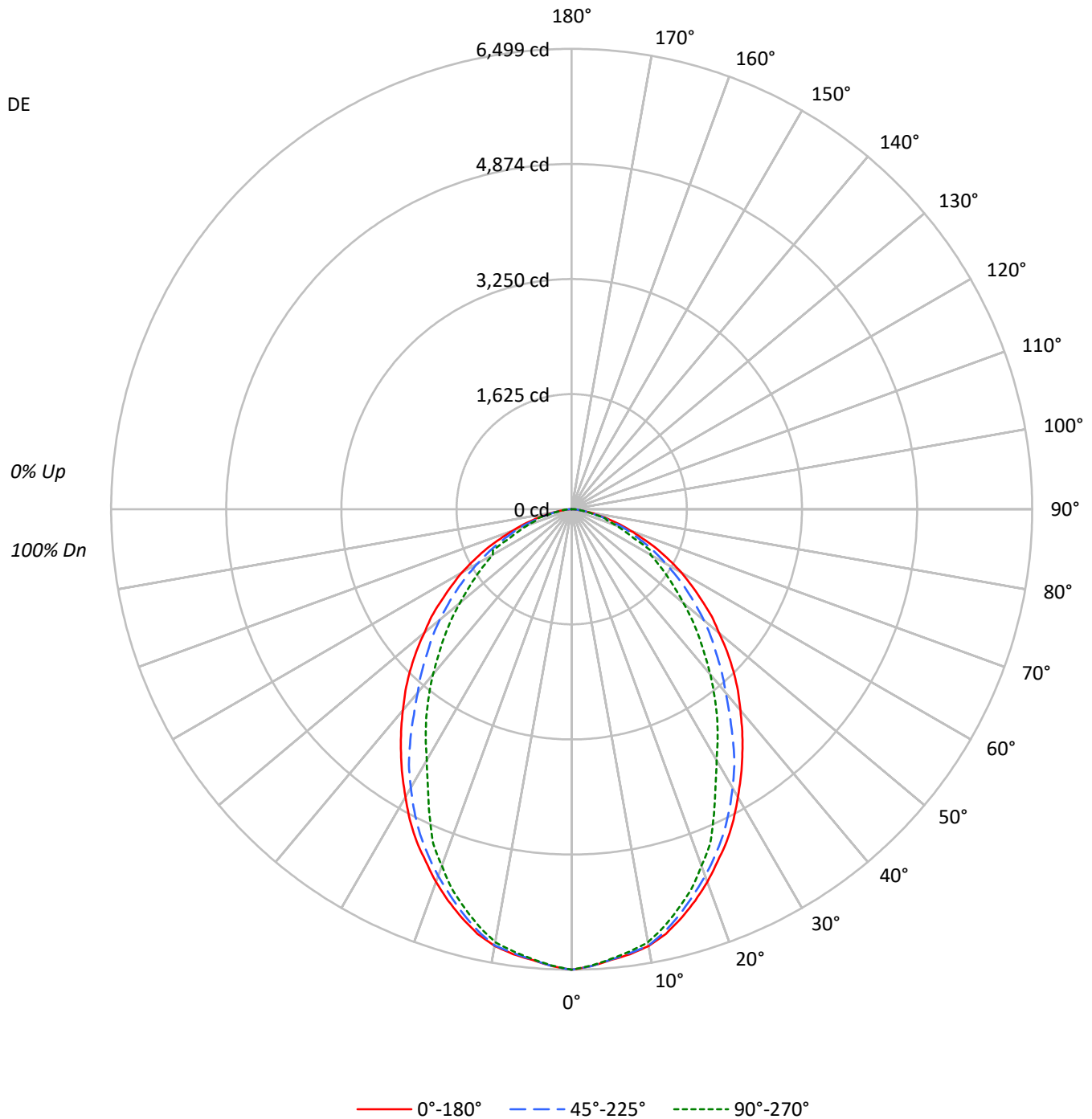
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8745	8745	8745
5°	8626	8616	8606
10°	8551	8541	8479
15°	8321	8237	8122
20°	8015	7886	7671
25°	7686	7518	7050
30°	7284	7051	6350
35°	6899	6516	5875
40°	6506	5939	5345
45°	6133	5490	4832
50°	5678	5096	4309
55°	5252	4618	3860
60°	4812	4125	3457
65°	4234	3612	3062
70°	3488	3163	2601
75°	2773	2421	2539
80°	1863	1746	1630
85°	1159	1392	1624

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6133 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	605.0	4.7
10°-20°	1660.4	13.0
20°-30°	2298.6	18.0
30°-40°	2451.0	19.2
40°-50°	2236.1	17.5
50°-60°	1751.8	13.7
60°-70°	1141.7	8.9
70°-80°	505.8	4.0
80°-90°	108.6	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°	4564.0	35.8
0°-40°	7015.0	55.0
0°-60°	11002.8	86.2
0°-90°	12759.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12759.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6499	6499	6499	6499	6499	
5°	6387	6379	6379	6372	6372	606
15°	5973	5973	5913	5853	5831	1679
25°	5177	5147	5064	4884	4749	2377
35°	4200	4170	3967	3667	3576	2626
45°	3223	3156	2885	2645	2540	2483
55°	2239	2171	1969	1736	1646	2008
65°	1330	1255	1135	1157	962	1311
75°	534	496	466	443	488	572
85°	75	83	90	98	105	104
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6499.3	6499.3	6499.3	6499.3	6499.3
2.5°	6454.2	6454.2	6454.2	6446.7	6446.7
5°	6386.6	6379.0	6379.0	6371.5	6371.5
7.5°	6334.0	6326.5	6318.9	6311.4	6296.4
10°	6258.8	6258.8	6251.3	6213.7	6206.2
12.5°	6138.6	6131.1	6101.0	6048.4	6033.4
15°	5973.3	5973.3	5913.2	5853.1	5830.6
17.5°	5793.0	5785.5	5710.3	5650.2	5620.2
20°	5597.6	5582.6	5507.5	5409.8	5357.2
22.5°	5379.7	5379.7	5289.6	5161.8	5109.2
25°	5176.9	5146.8	5064.2	4883.8	4748.6
27.5°	4943.9	4898.9	4808.7	4553.2	4395.5
30°	4688.5	4665.9	4538.2	4207.6	4087.4
32.5°	4448.1	4410.5	4275.2	3929.6	3831.9
35°	4200.1	4170.0	3967.2	3666.6	3576.5
37.5°	3952.2	3914.6	3659.1	3418.7	3306.0
40°	3704.2	3659.1	3381.1	3163.2	3043.0
42.5°	3471.3	3411.2	3140.7	2907.8	2772.5
45°	3223.3	3155.7	2885.2	2644.8	2539.6
47.5°	2975.4	2915.3	2667.3	2419.4	2299.2
50°	2712.4	2659.8	2434.4	2186.5	2058.7
52.5°	2494.5	2411.9	2194.0	1946.0	1840.8
55°	2239.1	2171.4	1968.6	1735.6	1645.5
57.5°	2006.1	1938.5	1750.7	1532.8	1457.6
60°	1788.2	1690.6	1532.8	1344.9	1284.8
62.5°	1547.8	1472.7	1337.4	1179.6	1254.8
65°	1329.9	1254.8	1134.6	1157.1	961.7
67.5°	1089.5	1051.9	946.7	841.5	811.5
70°	886.6	841.5	804.0	691.3	661.2
72.5°	706.3	661.2	608.6	548.5	526.0
75°	533.5	495.9	465.8	443.3	488.4
77.5°	368.2	353.1	330.6	308.1	300.5
80°	240.4	232.9	225.4	217.9	210.4
82.5°	142.8	142.8	142.8	142.8	142.8
85°	75.1	82.6	90.2	97.7	105.2
87.5°	45.1	45.1	52.6	60.1	67.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)