

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: P563152

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563152
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-LD4-3HI-40-UNV-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11333.0 lumens
Efficiency: N/A
Efficacy: 87.4 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

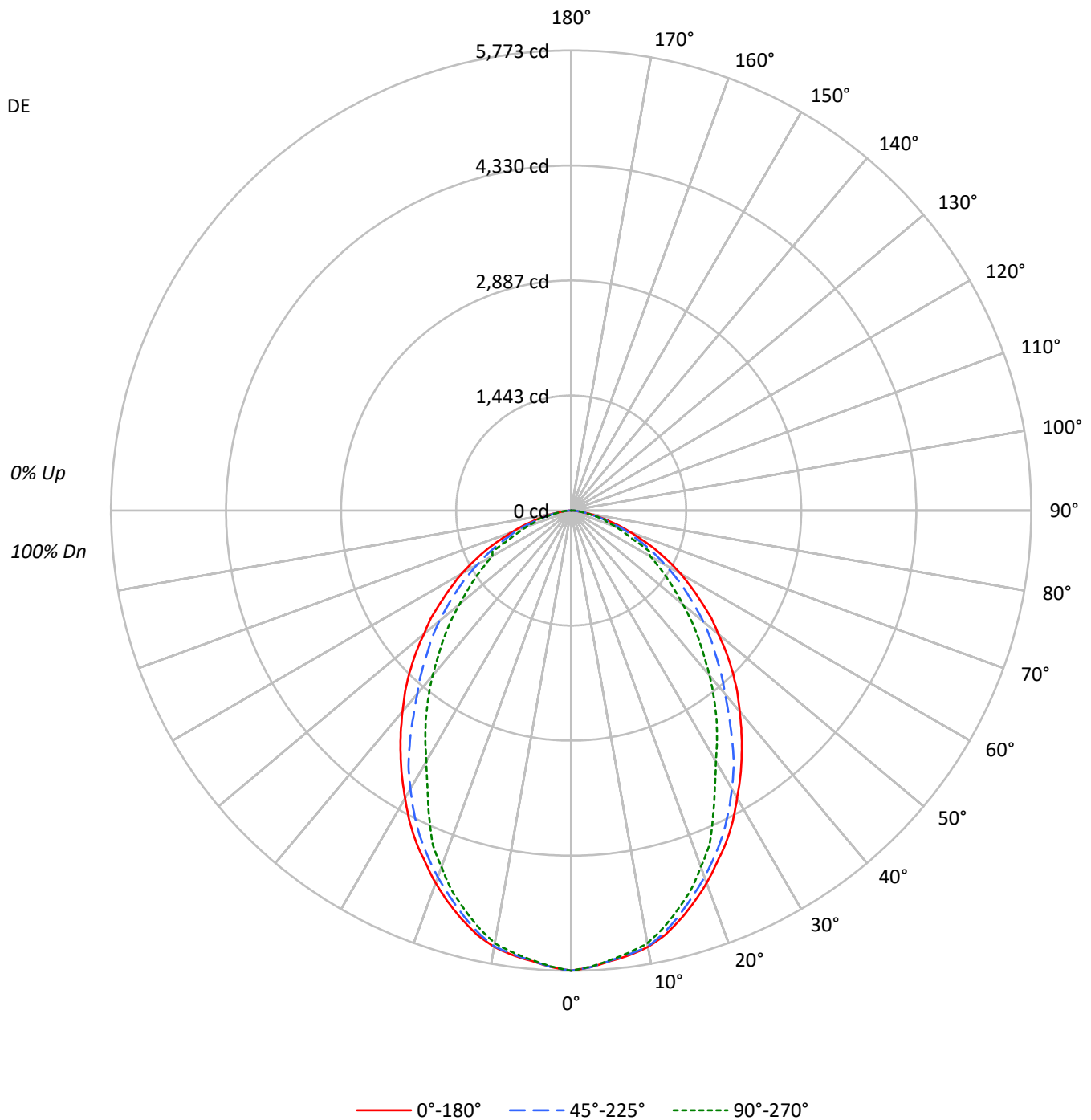
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7767	7767	7767
5°	7662	7653	7644
10°	7595	7586	7532
15°	7391	7316	7214
20°	7119	7004	6813
25°	6827	6678	6262
30°	6470	6263	5641
35°	6128	5788	5218
40°	5779	5275	4747
45°	5448	4877	4292
50°	5043	4526	3828
55°	4665	4102	3429
60°	4274	3664	3071
65°	3761	3209	2720
70°	3098	2809	2310
75°	2463	2151	2255
80°	1655	1551	1448
85°	1030	1237	1442

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5448 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	537.4	4.7
10°-20°	1474.8	13.0
20°-30°	2041.7	18.0
30°-40°	2177.1	19.2
40°-50°	1986.1	17.5
50°-60°	1556.0	13.7
60°-70°	1014.1	8.9
70°-80°	449.3	4.0
80°-90°	96.5	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°	4053.9	35.8
0°-40°	6231.0	55.0
0°-60°	9773.1	86.2
0°-90°	11333.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11333.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5773	5773	5773	5773	5773	
5°	5673	5666	5666	5659	5659	538
15°	5306	5306	5252	5199	5179	1492
25°	4598	4572	4498	4338	4218	2111
35°	3731	3704	3524	3257	3177	2332
45°	2863	2803	2563	2349	2256	2205
55°	1989	1929	1748	1542	1462	1784
65°	1181	1114	1008	1028	854	1164
75°	474	440	414	394	434	508
85°	67	73	80	87	93	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5772.9	5772.9	5772.9	5772.9	5772.9
2.5°	5732.8	5732.8	5732.8	5726.2	5726.2
5°	5672.8	5666.1	5666.1	5659.4	5659.4
7.5°	5626.1	5619.4	5612.7	5606.0	5592.7
10°	5559.3	5559.3	5552.6	5519.3	5512.6
12.5°	5452.5	5445.9	5419.2	5372.4	5359.1
15°	5305.7	5305.7	5252.3	5198.9	5178.9
17.5°	5145.5	5138.9	5072.1	5018.7	4992.0
20°	4972.0	4958.7	4891.9	4805.2	4758.5
22.5°	4778.5	4778.5	4698.4	4584.9	4538.2
25°	4598.3	4571.6	4498.2	4338.0	4217.9
27.5°	4391.4	4351.3	4271.3	4044.4	3904.2
30°	4164.5	4144.5	4031.0	3737.4	3630.6
32.5°	3950.9	3917.5	3797.4	3490.4	3403.7
35°	3730.7	3704.0	3523.8	3256.8	3176.8
37.5°	3510.4	3477.1	3250.2	3036.6	2936.5
40°	3290.2	3250.2	3003.2	2809.7	2702.9
42.5°	3083.3	3029.9	2789.7	2582.8	2462.7
45°	2863.1	2803.0	2562.8	2349.2	2255.8
47.5°	2642.8	2589.5	2369.2	2149.0	2042.2
50°	2409.3	2362.5	2162.3	1942.1	1828.6
52.5°	2215.7	2142.3	1948.8	1728.5	1635.1
55°	1988.8	1928.7	1748.5	1541.7	1461.6
57.5°	1781.9	1721.9	1555.0	1361.5	1294.7
60°	1588.4	1501.6	1361.5	1194.6	1141.2
62.5°	1374.8	1308.1	1187.9	1047.8	1114.5
65°	1181.3	1114.5	1007.8	1027.8	854.3
67.5°	967.7	934.3	840.9	747.5	720.8
70°	787.5	747.5	714.1	614.0	587.3
72.5°	627.3	587.3	540.6	487.2	467.2
75°	473.8	440.5	413.8	393.8	433.8
77.5°	327.0	313.7	293.6	273.6	267.0
80°	213.6	206.9	200.2	193.5	186.9
82.5°	126.8	126.8	126.8	126.8	126.8
85°	66.7	73.4	80.1	86.8	93.4
87.5°	40.0	40.0	46.7	53.4	60.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)