

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: P564140

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564140
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-LD4-4STD-40-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13157.0 lumens
Efficiency: N/A
Efficacy: 98.8 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

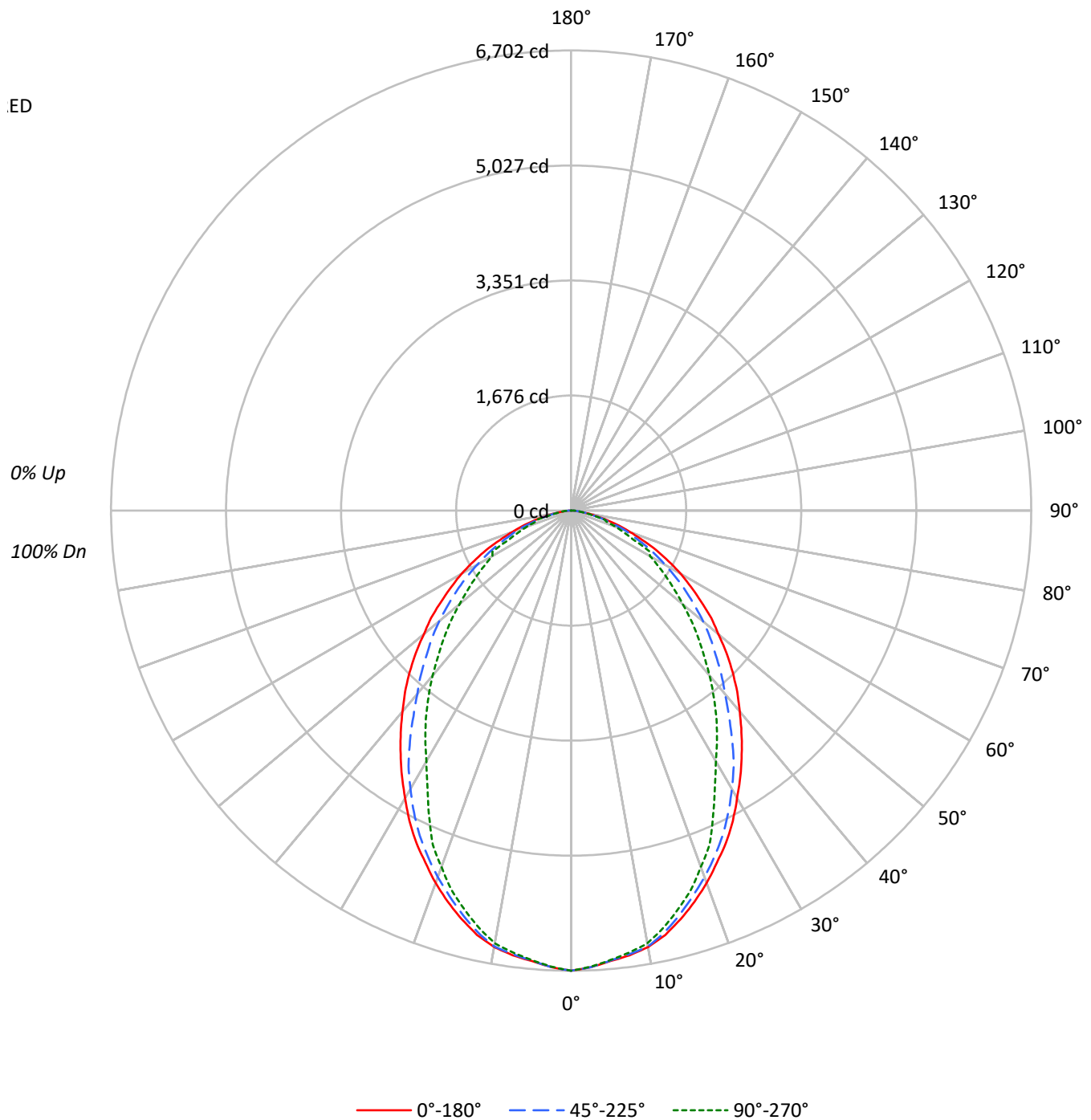
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	9017	9017	9017
5°	8895	8884	8874
10°	8818	8807	8744
15°	8580	8494	8375
20°	8265	8132	7910
25°	7925	7753	7270
30°	7511	7271	6548
35°	7114	6719	6058
40°	6709	6124	5511
45°	6325	5661	4983
50°	5855	5255	4444
55°	5416	4762	3980
60°	4962	4253	3565
65°	4366	3725	3157
70°	3597	3261	2682
75°	2860	2497	2618
80°	1921	1801	1681
85°	1196	1436	1675

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6325 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	623.9	4.7
10°-20°	1712.1	13.0
20°-30°	2370.4	18.0
30°-40°	2527.5	19.2
40°-50°	2305.8	17.5
50°-60°	1806.4	13.7
60°-70°	1177.3	8.9
70°-80°	521.6	4.0
80°-90°	112.0	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°	4706.4	35.8
0°-40°	7233.9	55.0
0°-60°	11346.1	86.2
0°-90°	13157.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13157.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6702	6702	6702	6702	6702	
5°	6586	6578	6578	6570	6570	625
15°	6160	6160	6098	6036	6012	1732
25°	5338	5307	5222	5036	4897	2451
35°	4331	4300	4091	3781	3688	2708
45°	3324	3254	2975	2727	2619	2560
55°	2309	2239	2030	1790	1697	2071
65°	1371	1294	1170	1193	992	1352
75°	550	511	480	457	504	590
85°	78	85	93	101	108	107
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6702.0	6702.0	6702.0	6702.0	6702.0
2.5°	6655.5	6655.5	6655.5	6647.8	6647.8
5°	6585.8	6578.0	6578.0	6570.3	6570.3
7.5°	6531.5	6523.8	6516.0	6508.3	6492.8
10°	6454.1	6454.1	6446.3	6407.6	6399.8
12.5°	6330.1	6322.3	6291.4	6237.1	6221.6
15°	6159.6	6159.6	6097.7	6035.7	6012.4
17.5°	5973.7	5965.9	5888.5	5826.5	5795.5
20°	5772.2	5756.7	5679.3	5578.5	5524.3
22.5°	5547.6	5547.6	5454.6	5322.9	5268.6
25°	5338.4	5307.4	5222.1	5036.2	4896.7
27.5°	5098.2	5051.7	4958.7	4695.3	4532.6
30°	4834.7	4811.5	4679.8	4338.9	4214.9
32.5°	4586.8	4548.1	4408.6	4052.2	3951.5
35°	4331.1	4300.1	4090.9	3781.0	3688.0
37.5°	4075.4	4036.7	3773.3	3525.3	3409.1
40°	3819.8	3773.3	3486.6	3261.9	3137.9
42.5°	3579.6	3517.6	3238.7	2998.5	2859.0
45°	3323.9	3254.2	2975.2	2727.3	2618.8
47.5°	3068.2	3006.2	2750.5	2494.8	2370.9
50°	2797.0	2742.8	2510.3	2254.7	2122.9
52.5°	2572.3	2487.1	2262.4	2006.7	1898.3
55°	2308.9	2239.2	2030.0	1789.8	1696.8
57.5°	2068.7	1999.0	1805.3	1580.6	1503.1
60°	1844.0	1743.3	1580.6	1386.9	1324.9
62.5°	1596.1	1518.6	1379.1	1216.4	1293.9
65°	1371.4	1293.9	1169.9	1193.2	991.7
67.5°	1123.5	1084.7	976.2	867.8	836.8
70°	914.3	867.8	829.0	712.8	681.8
72.5°	728.3	681.8	627.6	565.6	542.4
75°	550.1	511.4	480.4	457.1	503.6
77.5°	379.7	364.2	340.9	317.7	309.9
80°	247.9	240.2	232.4	224.7	216.9
82.5°	147.2	147.2	147.2	147.2	147.2
85°	77.5	85.2	93.0	100.7	108.5
87.5°	46.5	46.5	54.2	62.0	69.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)