

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: P564177

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564177
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-50-UNV-82-84-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14911.0 lumens
Efficiency: N/A
Efficacy: 111.9 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

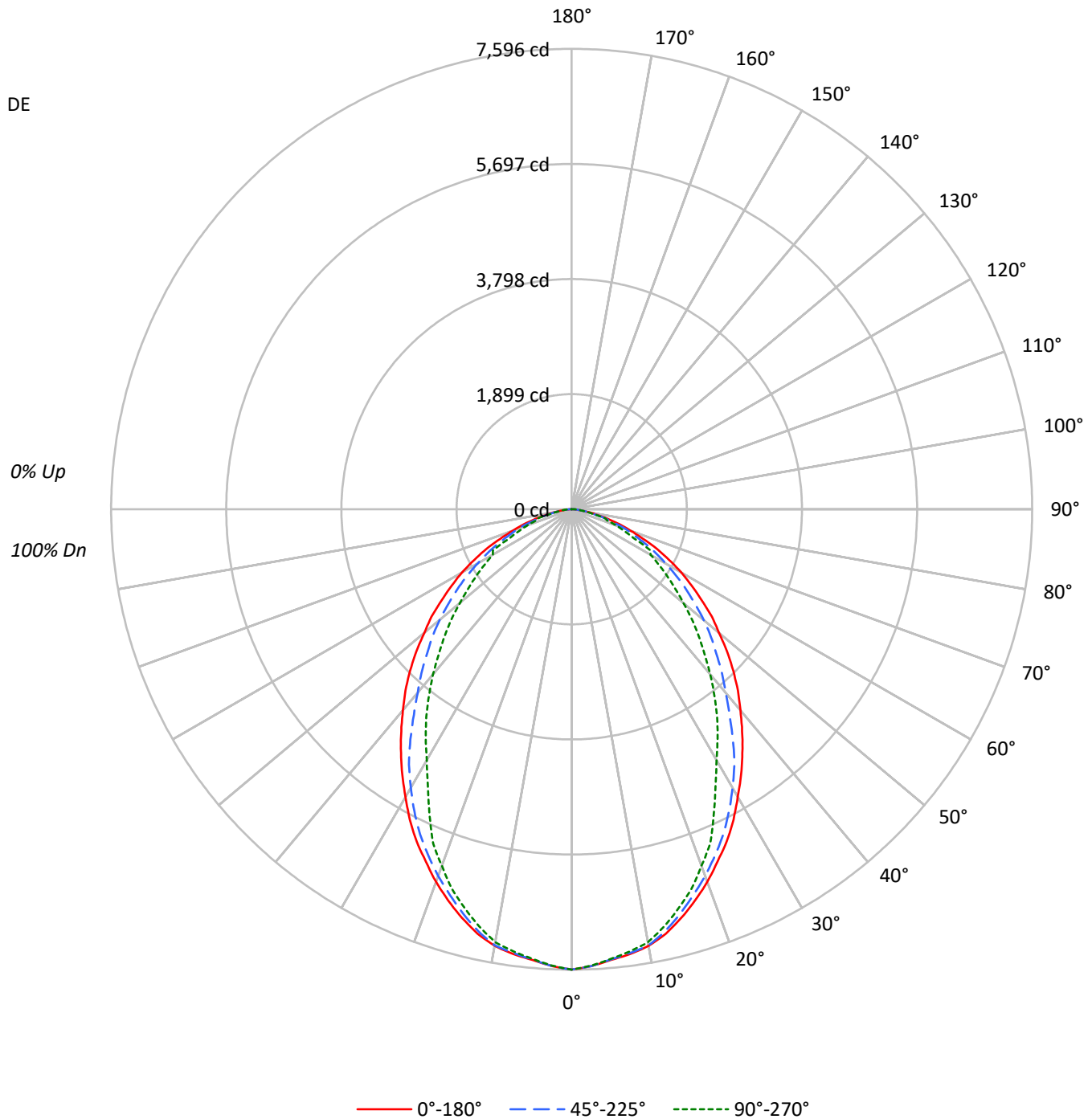
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10220	10220	10220
5°	10081	10069	10057
10°	9993	9981	9909
15°	9724	9626	9492
20°	9367	9216	8964
25°	8982	8786	8239
30°	8513	8240	7421
35°	8062	7615	6865
40°	7604	6940	6246
45°	7168	6416	5647
50°	6635	5955	5036
55°	6138	5397	4511
60°	5624	4820	4041
65°	4948	4221	3578
70°	4076	3696	3040
75°	3241	2830	2967
80°	2177	2041	1905
85°	1355	1627	1897

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7168 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	707.0	4.7
10°-20°	1940.4	13.0
20°-30°	2686.4	18.0
30°-40°	2864.4	19.2
40°-50°	2613.2	17.5
50°-60°	2047.2	13.7
60°-70°	1334.3	8.9
70°-80°	591.1	4.0
80°-90°	126.9	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°	5333.8	35.8
0°-40°	8198.2	55.0
0°-60°	12858.7	86.2
0°-90°	14911.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14911.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7596	7596	7596	7596	7596	
5°	7464	7455	7455	7446	7446	708
15°	6981	6981	6911	6840	6814	1963
25°	6050	6015	5918	5708	5550	2778
35°	4908	4873	4636	4285	4180	3069
45°	3767	3688	3372	3091	2968	2902
55°	2617	2538	2301	2028	1923	2347
65°	1554	1466	1326	1352	1124	1532
75°	623	580	544	518	571	668
85°	88	97	105	114	123	122
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7595.5	7595.5	7595.5	7595.5	7595.5
2.5°	7542.8	7542.8	7542.8	7534.0	7534.0
5°	7463.8	7455.0	7455.0	7446.2	7446.2
7.5°	7402.3	7393.5	7384.7	7375.9	7358.4
10°	7314.5	7314.5	7305.7	7261.8	7253.0
12.5°	7174.0	7165.2	7130.1	7068.6	7051.0
15°	6980.8	6980.8	6910.6	6840.3	6814.0
17.5°	6770.1	6761.3	6673.5	6603.2	6568.1
20°	6541.8	6524.2	6436.4	6322.2	6260.8
22.5°	6287.1	6287.1	6181.7	6032.5	5971.0
25°	6050.0	6014.9	5918.3	5707.6	5549.5
27.5°	5777.8	5725.1	5619.8	5321.2	5136.8
30°	5479.3	5452.9	5303.7	4917.3	4776.8
32.5°	5198.3	5154.4	4996.3	4592.4	4478.3
35°	4908.5	4873.4	4636.3	4285.1	4179.7
37.5°	4618.7	4574.8	4276.3	3995.3	3863.6
40°	4329.0	4276.3	3951.4	3696.8	3556.3
42.5°	4056.8	3986.5	3670.4	3398.2	3240.1
45°	3767.0	3688.0	3371.9	3090.9	2967.9
47.5°	3477.2	3407.0	3117.2	2827.4	2687.0
50°	3169.9	3108.4	2845.0	2555.2	2406.0
52.5°	2915.3	2818.7	2564.0	2274.2	2151.3
55°	2616.7	2537.7	2300.6	2028.4	1923.0
57.5°	2344.5	2265.5	2045.9	1791.3	1703.5
60°	2089.9	1975.7	1791.3	1571.8	1501.5
62.5°	1808.9	1721.1	1563.0	1378.6	1466.4
65°	1554.2	1466.4	1325.9	1352.3	1124.0
67.5°	1273.2	1229.3	1106.4	983.5	948.3
70°	1036.1	983.5	939.6	807.8	772.7
72.5°	825.4	772.7	711.3	641.0	614.7
75°	623.4	579.5	544.4	518.1	570.8
77.5°	430.3	412.7	386.4	360.0	351.2
80°	281.0	272.2	263.4	254.6	245.9
82.5°	166.8	166.8	166.8	166.8	166.8
85°	87.8	96.6	105.4	114.2	122.9
87.5°	52.7	52.7	61.5	70.2	79.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)