

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: P564077

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564077
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-35-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15504.0 lumens
Efficiency: N/A
Efficacy: 116.4 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

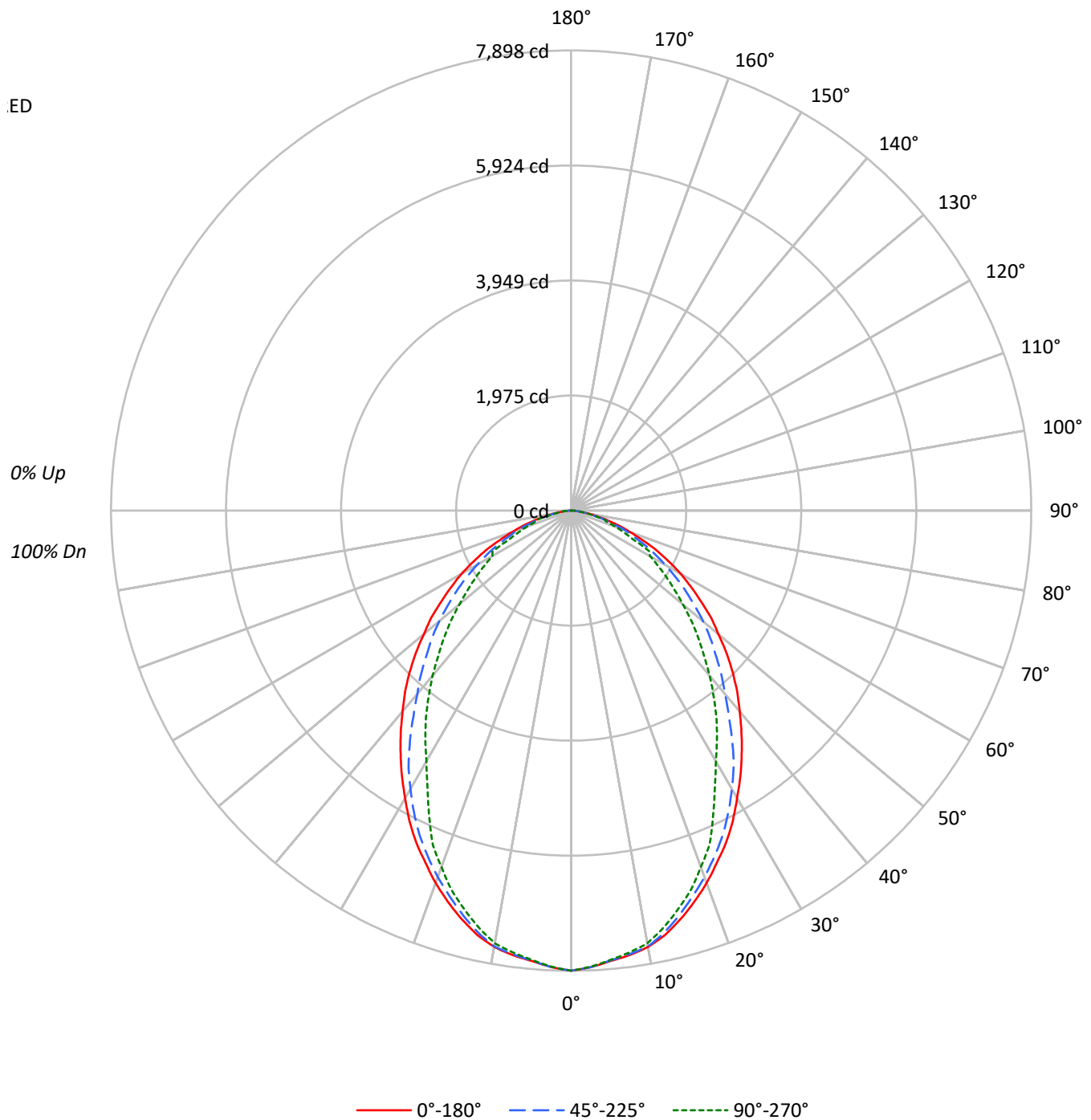
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10626	10626	10626
5°	10482	10469	10457
10°	10391	10378	10304
15°	10111	10009	9869
20°	9739	9582	9321
25°	9339	9136	8566
30°	8851	8568	7717
35°	8383	7918	7138
40°	7906	7216	6495
45°	7453	6671	5872
50°	6899	6192	5236
55°	6382	5611	4690
60°	5847	5012	4201
65°	5145	4389	3721
70°	4238	3843	3161
75°	3370	2943	3085
80°	2264	2122	1980
85°	1409	1692	1973

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7453 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	735.2	4.7
10°-20°	2017.6	13.0
20°-30°	2793.2	18.0
30°-40°	2978.4	19.2
40°-50°	2717.1	17.5
50°-60°	2128.7	13.7
60°-70°	1387.3	8.9
70°-80°	614.6	4.0
80°-90°	132.0	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°	5545.9	35.8
0°-40°	8524.3	55.0
0°-60°	13370.1	86.2
0°-90°	15504.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15504.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7898	7898	7898	7898	7898	
5°	7761	7751	7751	7742	7742	737
15°	7258	7258	7185	7112	7085	2041
25°	6291	6254	6154	5935	5770	2888
35°	5104	5067	4821	4456	4346	3191
45°	3917	3835	3506	3214	3086	3017
55°	2721	2639	2392	2109	2000	2440
65°	1616	1525	1379	1406	1169	1593
75°	648	603	566	539	594	695
85°	91	100	110	119	128	127
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7897.5	7897.5	7897.5	7897.5	7897.5
2.5°	7842.7	7842.7	7842.7	7833.6	7833.6
5°	7760.6	7751.4	7751.4	7742.3	7742.3
7.5°	7696.7	7687.5	7678.4	7669.3	7651.0
10°	7605.4	7605.4	7596.2	7550.6	7541.5
12.5°	7459.3	7450.2	7413.6	7349.7	7331.5
15°	7258.4	7258.4	7185.4	7112.3	7085.0
17.5°	7039.3	7030.2	6938.9	6865.8	6829.3
20°	6801.9	6783.7	6692.4	6573.7	6509.8
22.5°	6537.1	6537.1	6427.6	6272.4	6208.5
25°	6290.6	6254.1	6153.7	5934.6	5770.2
27.5°	6007.6	5952.8	5843.3	5532.8	5341.1
30°	5697.2	5669.8	5514.6	5112.9	4966.8
32.5°	5405.0	5359.4	5195.0	4775.0	4656.3
35°	5103.7	5067.2	4820.7	4455.5	4345.9
37.5°	4802.4	4756.8	4446.4	4154.2	4017.2
40°	4501.1	4446.4	4108.5	3843.8	3697.7
42.5°	4218.1	4145.1	3816.4	3533.3	3369.0
45°	3916.8	3834.6	3506.0	3213.8	3086.0
47.5°	3615.5	3542.5	3241.2	2939.9	2793.8
50°	3296.0	3232.1	2958.2	2656.9	2501.6
52.5°	3031.2	2930.8	2666.0	2364.7	2236.9
55°	2720.8	2638.6	2392.1	2109.1	1999.5
57.5°	2437.7	2355.6	2127.3	1862.5	1771.2
60°	2173.0	2054.3	1862.5	1634.3	1561.2
62.5°	1880.8	1789.5	1625.2	1433.4	1524.7
65°	1616.0	1524.7	1378.6	1406.0	1168.7
67.5°	1323.9	1278.2	1150.4	1022.6	986.1
70°	1077.4	1022.6	976.9	840.0	803.4
72.5°	858.2	803.4	739.5	666.5	639.1
75°	648.2	602.6	566.1	538.7	593.5
77.5°	447.4	429.1	401.7	374.3	365.2
80°	292.2	283.0	273.9	264.8	255.6
82.5°	173.5	173.5	173.5	173.5	173.5
85°	91.3	100.4	109.6	118.7	127.8
87.5°	54.8	54.8	63.9	73.0	82.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)