

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: P564087

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-80-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564087
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-80-87-EDD
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14782.0 lumens
Efficiency: N/A
Efficacy: 111.0 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

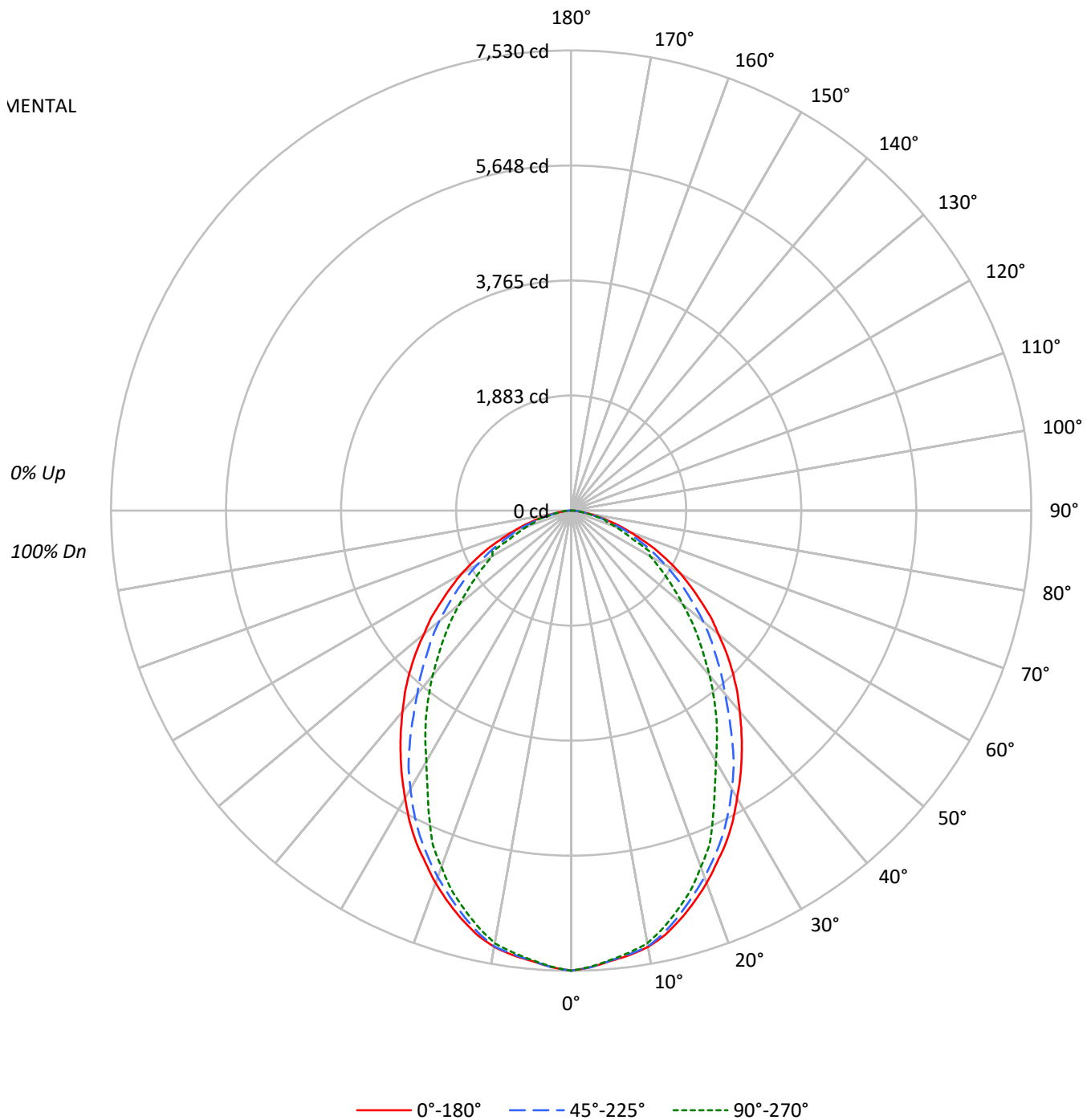
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10131	10131	10131
5°	9994	9982	9970
10°	9907	9895	9824
15°	9640	9543	9409
20°	9286	9136	8887
25°	8904	8710	8167
30°	8439	8169	7357
35°	7993	7549	6806
40°	7538	6880	6192
45°	7106	6361	5599
50°	6578	5904	4993
55°	6085	5350	4472
60°	5575	4779	4006
65°	4905	4185	3547
70°	4041	3664	3013
75°	3213	2806	2941
80°	2159	2023	1888
85°	1343	1613	1882

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7106 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	700.9	4.7
10°-20°	1923.6	13.0
20°-30°	2663.1	18.0
30°-40°	2839.7	19.2
40°-50°	2590.6	17.5
50°-60°	2029.5	13.7
60°-70°	1322.7	8.9
70°-80°	586.0	4.0
80°-90°	125.8	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°	5287.6	35.8
0°-40°	8127.3	55.0
0°-60°	12747.4	86.2
0°-90°	14782.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14782.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7530	7530	7530	7530	7530	
5°	7399	7390	7390	7382	7382	702
15°	6920	6920	6851	6781	6755	1946
25°	5998	5963	5867	5658	5502	2754
35°	4866	4831	4596	4248	4144	3042
45°	3734	3656	3343	3064	2942	2877
55°	2594	2516	2281	2011	1906	2327
65°	1541	1454	1314	1341	1114	1518
75°	618	574	540	514	566	662
85°	87	96	104	113	122	121
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7529.8	7529.8	7529.8	7529.8	7529.8
2.5°	7477.5	7477.5	7477.5	7468.8	7468.8
5°	7399.2	7390.5	7390.5	7381.8	7381.8
7.5°	7338.2	7329.5	7320.8	7312.1	7294.7
10°	7251.2	7251.2	7242.5	7199.0	7190.3
12.5°	7111.9	7103.2	7068.4	7007.5	6990.0
15°	6920.4	6920.4	6850.8	6781.1	6755.0
17.5°	6711.5	6702.8	6615.7	6546.1	6511.3
20°	6485.2	6467.8	6380.7	6267.5	6206.6
22.5°	6232.7	6232.7	6128.3	5980.3	5919.3
25°	5997.7	5962.9	5867.1	5658.2	5501.5
27.5°	5727.8	5675.6	5571.1	5275.2	5092.4
30°	5431.9	5405.8	5257.8	4874.8	4735.5
32.5°	5153.3	5109.8	4953.1	4552.7	4439.5
35°	4866.0	4831.2	4596.2	4248.0	4143.5
37.5°	4578.8	4535.3	4239.3	3960.7	3830.2
40°	4291.5	4239.3	3917.2	3664.8	3525.5
42.5°	4021.7	3952.0	3638.7	3368.8	3212.1
45°	3734.4	3656.1	3342.7	3064.1	2942.3
47.5°	3447.1	3377.5	3090.2	2803.0	2663.7
50°	3142.5	3081.5	2820.4	2533.1	2385.1
52.5°	2890.0	2794.3	2541.8	2254.6	2132.7
55°	2594.1	2515.7	2280.7	2010.8	1906.4
57.5°	2324.2	2245.9	2028.2	1775.8	1688.8
60°	2071.8	1958.6	1775.8	1558.2	1488.5
62.5°	1793.2	1706.2	1549.5	1366.7	1453.7
65°	1540.8	1453.7	1314.4	1340.6	1114.2
67.5°	1262.2	1218.7	1096.8	975.0	940.1
70°	1027.2	975.0	931.4	800.9	766.0
72.5°	818.3	766.0	705.1	635.5	609.3
75°	618.0	574.5	539.7	513.6	565.8
77.5°	426.5	409.1	383.0	356.9	348.2
80°	278.6	269.9	261.1	252.4	243.7
82.5°	165.4	165.4	165.4	165.4	165.4
85°	87.0	95.8	104.5	113.2	121.9
87.5°	52.2	52.2	60.9	69.6	78.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)