

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: P564089

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-80-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564089
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-80-88-EDD
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13312.0 lumens
Efficiency: N/A
Efficacy: 99.9 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

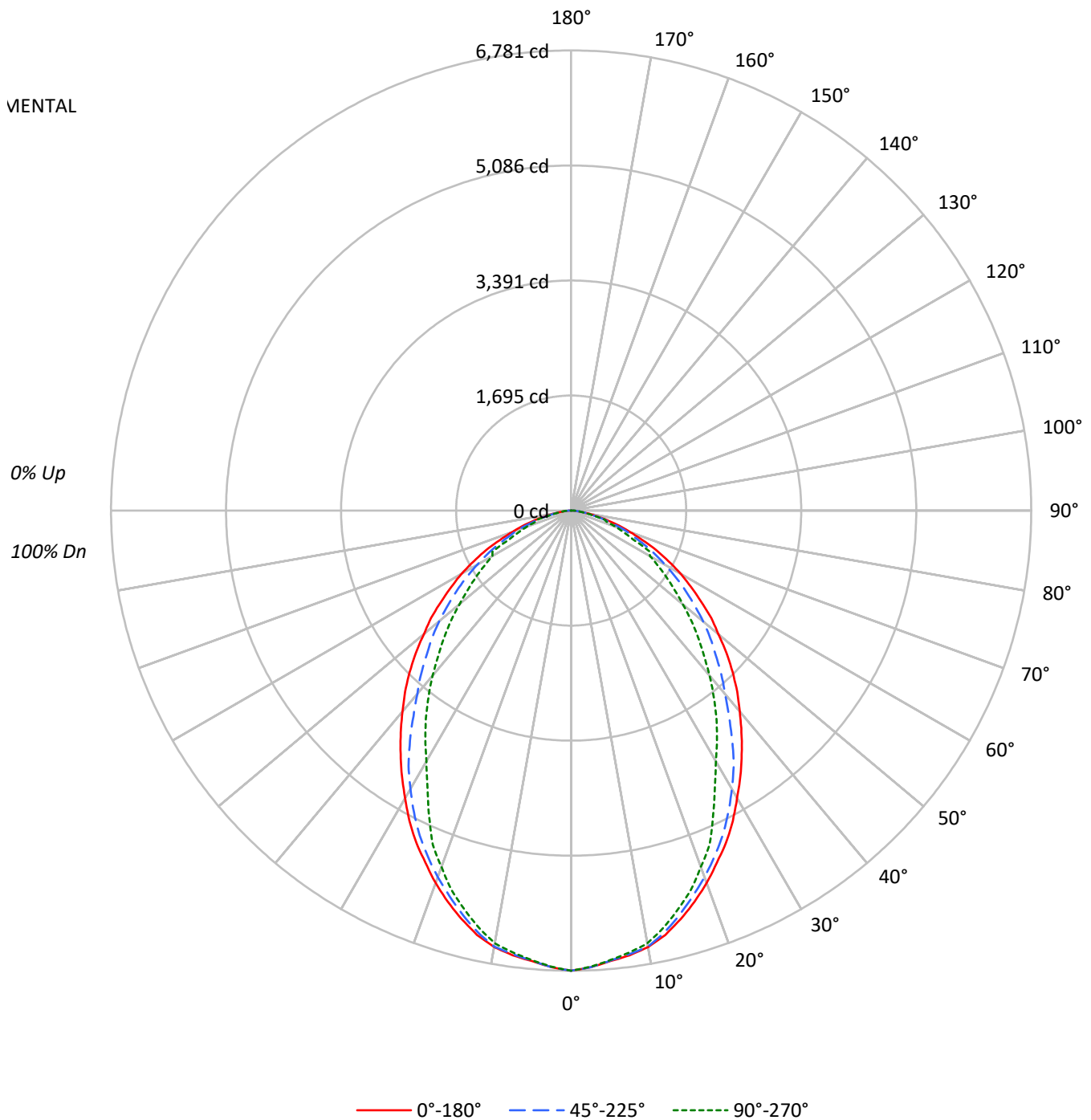
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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°	9124	9124	9124
5°	9000	8989	8979
10°	8922	8911	8847
15°	8681	8594	8474
20°	8362	8228	8003
25°	8019	7844	7355
30°	7600	7356	6626
35°	7198	6799	6129
40°	6788	6196	5576
45°	6399	5728	5042
50°	5924	5317	4496
55°	5480	4818	4027
60°	5021	4303	3607
65°	4417	3769	3195
70°	3639	3300	2714
75°	2894	2527	2649
80°	1944	1822	1701
85°	1210	1453	1694

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6399 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	631.2	4.7
10°-20°	1732.3	13.0
20°-30°	2398.3	18.0
30°-40°	2557.3	19.2
40°-50°	2333.0	17.5
50°-60°	1827.7	13.7
60°-70°	1191.2	8.9
70°-80°	527.8	4.0
80°-90°	113.3	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°	4761.8	35.8
0°-40°	7319.1	55.0
0°-60°	11479.7	86.2
0°-90°	13312.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13312.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6781	6781	6781	6781	6781	
5°	6663	6656	6656	6648	6648	633
15°	6232	6232	6170	6107	6083	1752
25°	5401	5370	5284	5096	4954	2480
35°	4382	4351	4139	3826	3732	2740
45°	3363	3292	3010	2759	2650	2591
55°	2336	2266	2054	1811	1717	2095
65°	1388	1309	1184	1207	1003	1367
75°	557	517	486	462	510	597
85°	78	86	94	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6781.0	6781.0	6781.0	6781.0	6781.0
2.5°	6733.9	6733.9	6733.9	6726.1	6726.1
5°	6663.4	6655.5	6655.5	6647.7	6647.7
7.5°	6608.5	6600.7	6592.8	6585.0	6569.3
10°	6530.1	6530.1	6522.3	6483.1	6475.2
12.5°	6404.7	6396.8	6365.5	6310.6	6294.9
15°	6232.2	6232.2	6169.5	6106.8	6083.3
17.5°	6044.1	6036.2	5957.8	5895.1	5863.8
20°	5840.2	5824.6	5746.2	5644.3	5589.4
22.5°	5612.9	5612.9	5518.8	5385.6	5330.7
25°	5401.2	5369.9	5283.7	5095.5	4954.4
27.5°	5158.2	5111.2	5017.1	4750.6	4586.0
30°	4891.7	4868.2	4734.9	4390.0	4264.6
32.5°	4640.8	4601.6	4460.5	4099.9	3998.0
35°	4382.1	4350.8	4139.1	3825.6	3731.5
37.5°	4123.4	4084.3	3817.7	3566.9	3449.3
40°	3864.8	3817.7	3527.7	3300.3	3174.9
42.5°	3621.7	3559.0	3276.8	3033.8	2892.7
45°	3363.0	3292.5	3010.3	2759.4	2649.7
47.5°	3104.3	3041.6	2782.9	2524.2	2398.8
50°	2830.0	2775.1	2539.9	2281.2	2148.0
52.5°	2602.6	2516.4	2289.1	2030.4	1920.6
55°	2336.1	2265.5	2053.9	1810.9	1716.8
57.5°	2093.1	2022.5	1826.5	1599.2	1520.8
60°	1865.7	1763.8	1599.2	1403.2	1340.5
62.5°	1614.9	1536.5	1395.4	1230.8	1309.2
65°	1387.5	1309.2	1183.7	1207.2	1003.4
67.5°	1136.7	1097.5	987.7	878.0	846.6
70°	925.0	878.0	838.8	721.2	689.9
72.5°	736.9	689.9	635.0	572.3	548.7
75°	556.6	517.4	486.0	462.5	509.6
77.5°	384.1	368.4	344.9	321.4	313.6
80°	250.9	243.0	235.2	227.3	219.5
82.5°	148.9	148.9	148.9	148.9	148.9
85°	78.4	86.2	94.1	101.9	109.7
87.5°	47.0	47.0	54.9	62.7	70.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)