

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: P563153

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563153
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-LD4-3HI-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13488.0 lumens
Efficiency: N/A
Efficacy: 104.1 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

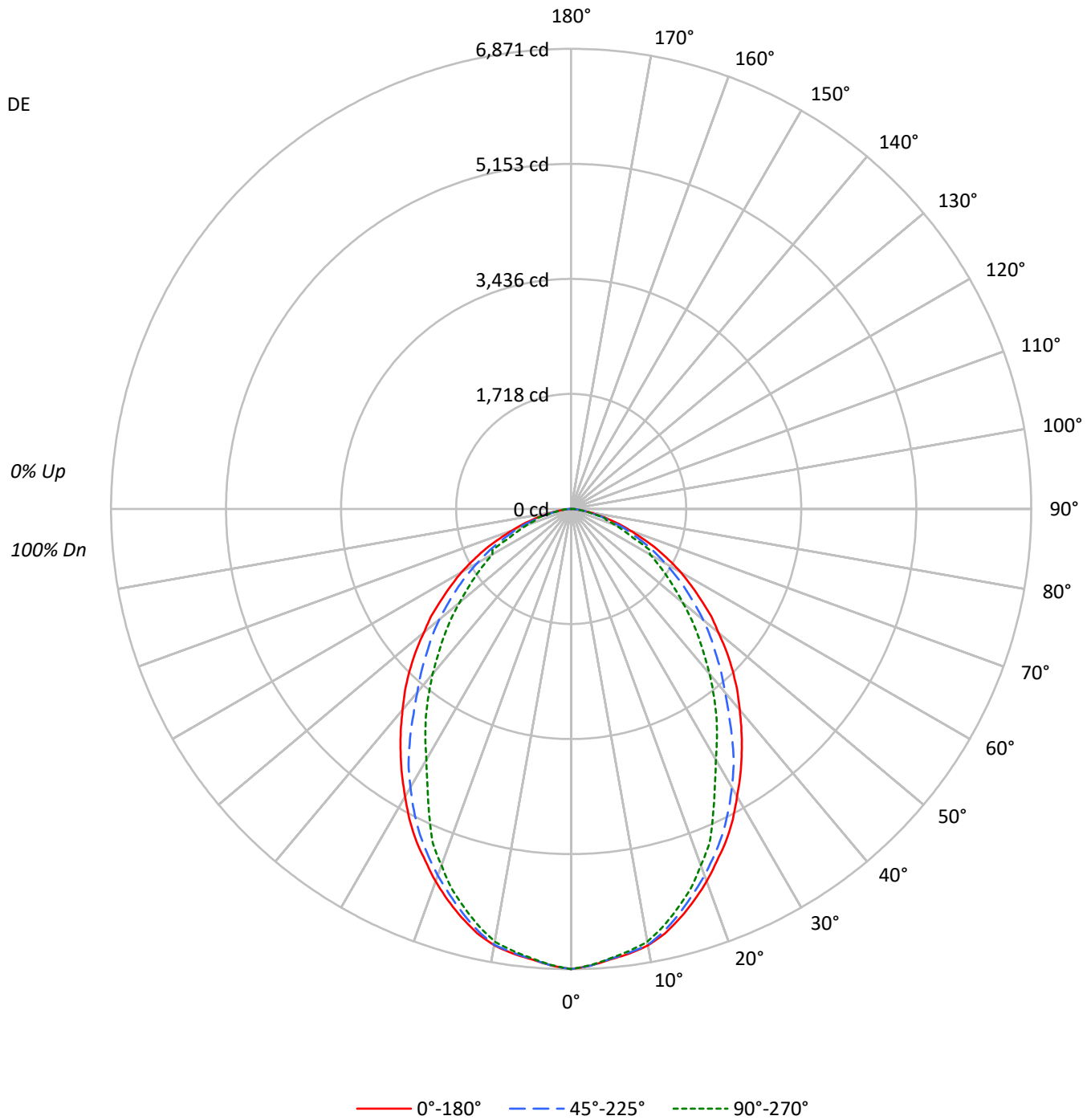
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	9244	9244	9244
5°	9119	9108	9097
10°	9040	9029	8964
15°	8796	8707	8586
20°	8473	8336	8109
25°	8125	7948	7452
30°	7700	7454	6713
35°	7293	6889	6210
40°	6878	6278	5650
45°	6484	5804	5108
50°	6002	5387	4556
55°	5552	4882	4081
60°	5087	4360	3655
65°	4476	3819	3237
70°	3687	3343	2750
75°	2931	2560	2684
80°	1970	1846	1723
85°	1226	1471	1717

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6484 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	639.6	4.7
10°-20°	1755.2	13.0
20°-30°	2430.0	18.0
30°-40°	2591.1	19.2
40°-50°	2363.8	17.5
50°-60°	1851.9	13.7
60°-70°	1206.9	8.9
70°-80°	534.7	4.0
80°-90°	114.8	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°	4824.8	35.8
0°-40°	7415.8	55.0
0°-60°	11631.5	86.2
0°-90°	13488.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13488.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6871	6871	6871	6871	6871	
5°	6752	6744	6744	6736	6736	641
15°	6315	6315	6251	6188	6164	1775
25°	5473	5441	5354	5163	5020	2512
35°	4440	4408	4194	3876	3781	2776
45°	3408	3336	3050	2796	2685	2625
55°	2367	2296	2081	1835	1740	2123
65°	1406	1326	1199	1223	1017	1386
75°	564	524	492	469	516	604
85°	79	87	95	103	111	110
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6870.6	6870.6	6870.6	6870.6	6870.6
2.5°	6822.9	6822.9	6822.9	6815.0	6815.0
5°	6751.5	6743.5	6743.5	6735.6	6735.6
7.5°	6695.9	6687.9	6680.0	6672.0	6656.1
10°	6616.4	6616.4	6608.5	6568.8	6560.8
12.5°	6489.3	6481.4	6449.6	6394.0	6378.1
15°	6314.6	6314.6	6251.1	6187.5	6163.7
17.5°	6124.0	6116.0	6036.6	5973.1	5941.3
20°	5917.5	5901.6	5822.1	5718.9	5663.3
22.5°	5687.1	5687.1	5591.8	5456.8	5401.2
25°	5472.7	5440.9	5353.5	5162.9	5019.9
27.5°	5226.4	5178.8	5083.5	4813.4	4646.6
30°	4956.4	4932.5	4797.5	4448.0	4320.9
32.5°	4702.2	4662.5	4519.5	4154.1	4050.9
35°	4440.1	4408.3	4193.9	3876.1	3780.8
37.5°	4178.0	4138.2	3868.2	3614.0	3494.9
40°	3915.8	3868.2	3574.3	3344.0	3216.9
42.5°	3669.6	3606.1	3320.1	3073.9	2930.9
45°	3407.5	3336.0	3050.1	2795.9	2684.7
47.5°	3145.4	3081.8	2819.7	2557.6	2430.5
50°	2867.4	2811.8	2573.5	2311.4	2176.4
52.5°	2637.0	2549.7	2319.3	2057.2	1946.0
55°	2367.0	2295.5	2081.0	1834.8	1739.5
57.5°	2120.8	2049.3	1850.7	1620.4	1540.9
60°	1890.4	1787.2	1620.4	1421.8	1358.2
62.5°	1636.2	1556.8	1413.8	1247.0	1326.5
65°	1405.9	1326.5	1199.4	1223.2	1016.7
67.5°	1151.7	1112.0	1000.8	889.6	857.8
70°	937.3	889.6	849.9	730.7	699.0
72.5°	746.6	699.0	643.4	579.8	556.0
75°	563.9	524.2	492.5	468.6	516.3
77.5°	389.2	373.3	349.5	325.7	317.7
80°	254.2	246.2	238.3	230.3	222.4
82.5°	150.9	150.9	150.9	150.9	150.9
85°	79.4	87.4	95.3	103.3	111.2
87.5°	47.7	47.7	55.6	63.5	71.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)