

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: P563281

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563281
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-LD4-3LO-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

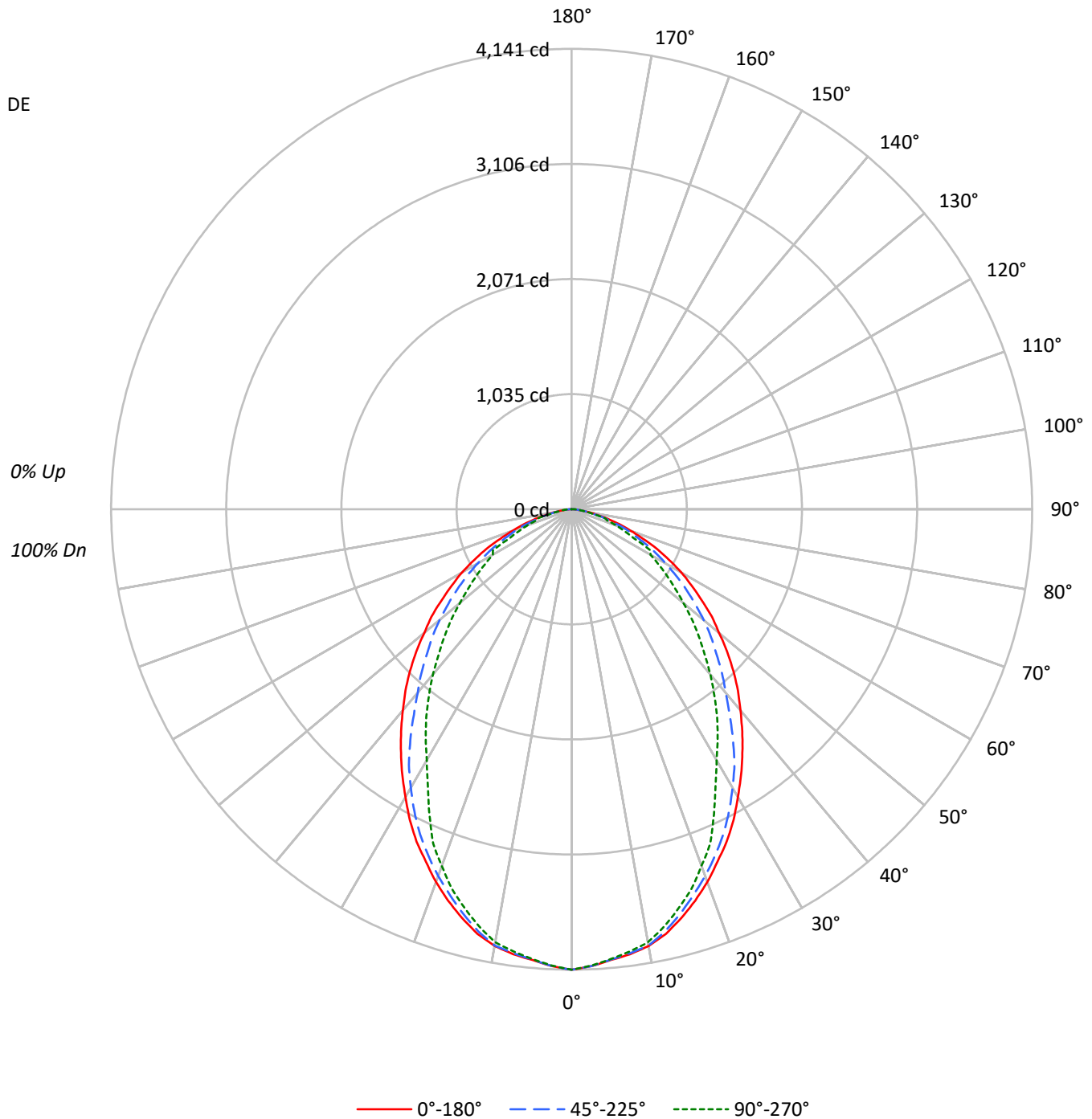
Lumens per Lamp: N/A
Luminaire Lumens: 8130.0 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	5572	5572	5572
5°	5496	5490	5483
10°	5449	5442	5403
15°	5302	5249	5175
20°	5107	5025	4888
25°	4897	4791	4492
30°	4641	4493	4046
35°	4396	4152	3743
40°	4146	3784	3406
45°	3908	3498	3079
50°	3618	3247	2746
55°	3347	2943	2460
60°	3066	2628	2203
65°	2698	2301	1951
70°	2222	2015	1657
75°	1767	1543	1618
80°	1187	1113	1039
85°	739	888	1034

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3908 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	385.5	4.7
10°-20°	1058.0	13.0
20°-30°	1464.7	18.0
30°-40°	1561.8	19.2
40°-50°	1424.8	17.5
50°-60°	1116.2	13.7
60°-70°	727.5	8.9
70°-80°	322.3	4.0
80°-90°	69.2	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°	2908.2	35.8
0°-40°	4470.0	55.0
0°-60°	7011.0	86.2
0°-90°	8130.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8130.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4141	4141	4141	4141	4141	
5°	4070	4065	4065	4060	4060	386
15°	3806	3806	3768	3730	3715	1070
25°	3299	3280	3227	3112	3026	1514
35°	2676	2657	2528	2336	2279	1673
45°	2054	2011	1838	1685	1618	1582
55°	1427	1384	1254	1106	1048	1280
65°	847	800	723	737	613	835
75°	340	316	297	282	311	364
85°	48	53	58	62	67	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4141.3	4141.3	4141.3	4141.3	4141.3
2.5°	4112.6	4112.6	4112.6	4107.8	4107.8
5°	4069.5	4064.7	4064.7	4059.9	4059.9
7.5°	4036.0	4031.2	4026.4	4021.6	4012.0
10°	3988.1	3988.1	3983.3	3959.4	3954.6
12.5°	3911.5	3906.7	3887.6	3854.1	3844.5
15°	3806.2	3806.2	3767.9	3729.6	3715.2
17.5°	3691.3	3686.5	3638.6	3600.3	3581.2
20°	3566.8	3557.2	3509.3	3447.1	3413.6
22.5°	3428.0	3428.0	3370.5	3289.1	3255.6
25°	3298.7	3279.5	3226.9	3112.0	3025.8
27.5°	3150.3	3121.5	3064.1	2901.3	2800.8
30°	2987.5	2973.1	2891.7	2681.1	2604.5
32.5°	2834.3	2810.3	2724.2	2503.9	2441.7
35°	2676.3	2657.1	2527.9	2336.4	2278.9
37.5°	2518.3	2494.4	2331.6	2178.4	2106.6
40°	2360.3	2331.6	2154.4	2015.6	1939.0
42.5°	2211.9	2173.6	2001.2	1852.8	1766.6
45°	2053.9	2010.8	1838.5	1685.3	1618.2
47.5°	1895.9	1857.6	1699.6	1541.6	1465.0
50°	1728.3	1694.8	1551.2	1393.2	1311.8
52.5°	1589.5	1536.8	1398.0	1240.0	1173.0
55°	1426.7	1383.6	1254.4	1105.9	1048.5
57.5°	1278.3	1235.2	1115.5	976.7	928.8
60°	1139.5	1077.2	976.7	857.0	818.7
62.5°	986.3	938.4	852.2	751.7	799.5
65°	847.4	799.5	722.9	737.3	612.8
67.5°	694.2	670.3	603.2	536.2	517.1
70°	564.9	536.2	512.3	440.5	421.3
72.5°	450.0	421.3	387.8	349.5	335.1
75°	339.9	316.0	296.8	282.5	311.2
77.5°	234.6	225.0	210.7	196.3	191.5
80°	153.2	148.4	143.6	138.8	134.1
82.5°	91.0	91.0	91.0	91.0	91.0
85°	47.9	52.7	57.5	62.2	67.0
87.5°	28.7	28.7	33.5	38.3	43.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)