

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: P561405

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561405
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-12-4-LD4-2HI-40-UNV-80-96-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

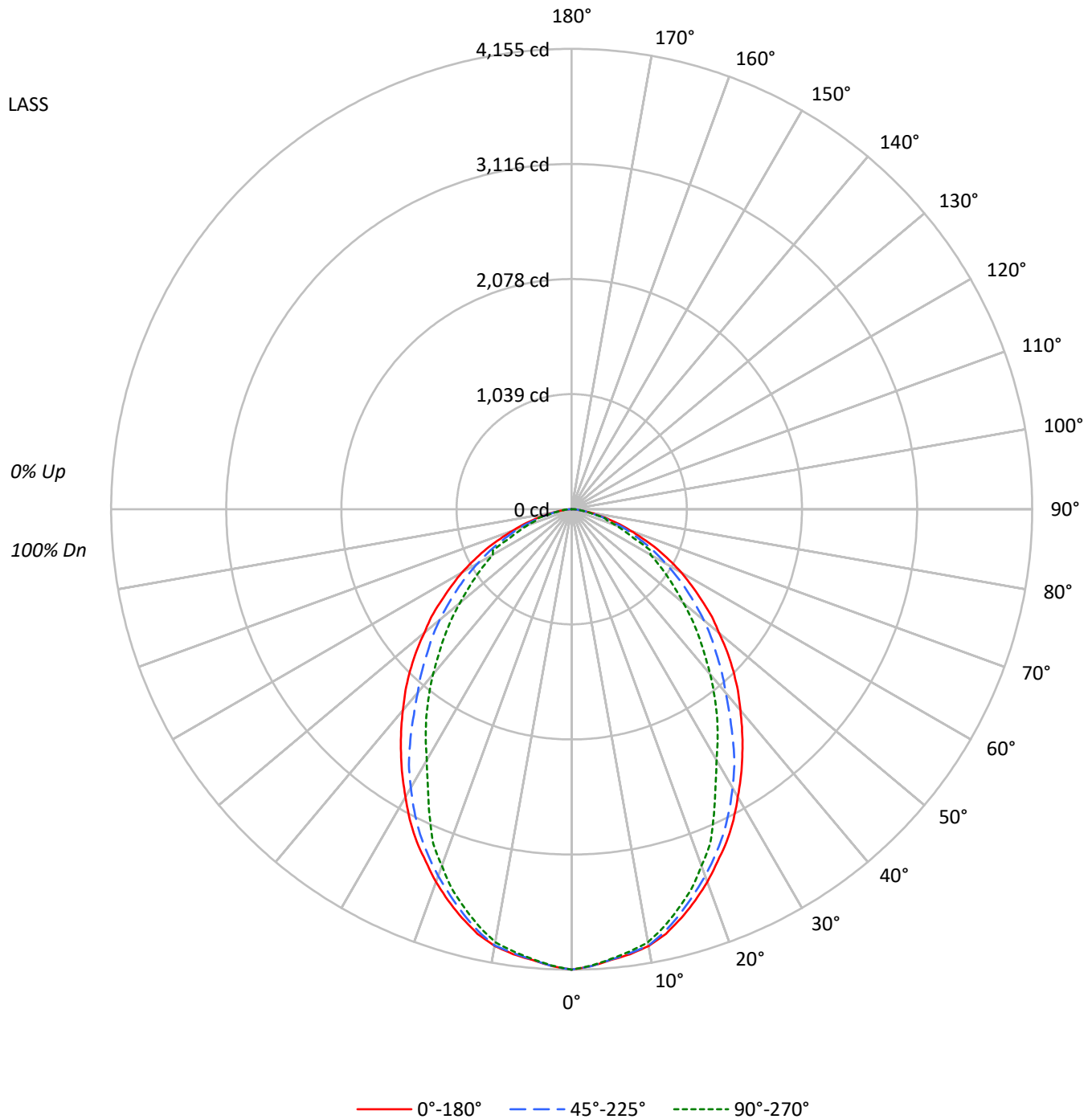
Lumens per Lamp: N/A
Luminaire Lumens: 8157.0 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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



TEST NUMBER: P561405
CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-80-96-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561405

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-80-96-EDD

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	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°	11181	11181	11181
5°	11029	11016	11003
10°	10934	10920	10842
15°	10639	10532	10385
20°	10248	10083	9808
25°	9827	9613	9014
30°	9314	9015	8120
35°	8821	8332	7511
40°	8319	7593	6834
45°	7842	7020	6179
50°	7260	6515	5510
55°	6716	5904	4936
60°	6153	5274	4421
65°	5414	4618	3915
70°	4460	4044	3326
75°	3546	3096	3246
80°	2382	2233	2084
85°	1482	1778	2075

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7842 cd/sqm



TEST NUMBER: P561405

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-80-96-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.8	4.7
10°-20°	1061.5	13.0
20°-30°	1469.6	18.0
30°-40°	1567.0	19.2
40°-50°	1429.5	17.5
50°-60°	1119.9	13.7
60°-70°	729.9	8.9
70°-80°	323.4	4.0
80°-90°	69.4	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°	2917.8	35.8
0°-40°	4484.8	55.0
0°-60°	7034.3	86.2
0°-90°	8157.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8157.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4155	4155	4155	4155	4155	
5°	4083	4078	4078	4073	4073	388
15°	3819	3819	3780	3742	3728	1074
25°	3310	3290	3238	3122	3036	1519
35°	2685	2666	2536	2344	2286	1679
45°	2061	2018	1845	1691	1624	1587
55°	1432	1388	1258	1110	1052	1284
65°	850	802	725	740	615	838
75°	341	317	298	283	312	366
85°	48	53	58	62	67	67
90°	0	0	0	0	0	



TEST NUMBER: P561405

CATALOG NUMBER: FSR-12-4-LD4-2HI-40-UNV-80-96-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4155.1	4155.1	4155.1	4155.1	4155.1
2.5°	4126.2	4126.2	4126.2	4121.4	4121.4
5°	4083.0	4078.2	4078.2	4073.4	4073.4
7.5°	4049.4	4044.6	4039.8	4035.0	4025.4
10°	4001.4	4001.4	3996.5	3972.5	3967.7
12.5°	3924.5	3919.7	3900.5	3866.9	3857.2
15°	3818.8	3818.8	3780.4	3742.0	3727.6
17.5°	3703.5	3698.7	3650.7	3612.3	3593.1
20°	3578.6	3569.0	3521.0	3458.6	3424.9
22.5°	3439.3	3439.3	3381.7	3300.0	3266.4
25°	3309.6	3290.4	3237.6	3122.3	3035.8
27.5°	3160.7	3131.9	3074.3	2910.9	2810.1
30°	2997.4	2983.0	2901.3	2690.0	2613.1
32.5°	2843.7	2819.7	2733.2	2512.3	2449.8
35°	2685.2	2666.0	2536.3	2344.1	2286.5
37.5°	2526.7	2502.6	2339.3	2185.6	2113.6
40°	2368.1	2339.3	2161.6	2022.3	1945.4
42.5°	2219.2	2180.8	2007.9	1859.0	1772.5
45°	2060.7	2017.5	1844.6	1690.8	1623.6
47.5°	1902.2	1863.8	1705.3	1546.7	1469.9
50°	1734.1	1700.5	1556.3	1397.8	1316.2
52.5°	1594.8	1541.9	1402.6	1244.1	1176.9
55°	1431.5	1388.2	1258.5	1109.6	1052.0
57.5°	1282.5	1239.3	1119.2	979.9	931.9
60°	1143.2	1080.8	979.9	859.8	821.4
62.5°	989.5	941.5	855.0	754.2	802.2
65°	850.2	802.2	725.3	739.7	614.9
67.5°	696.5	672.5	605.2	538.0	518.8
70°	566.8	538.0	514.0	441.9	422.7
72.5°	451.5	422.7	389.1	350.7	336.2
75°	341.1	317.0	297.8	283.4	312.2
77.5°	235.4	225.8	211.4	196.9	192.1
80°	153.7	148.9	144.1	139.3	134.5
82.5°	91.3	91.3	91.3	91.3	91.3
85°	48.0	52.8	57.6	62.4	67.2
87.5°	28.8	28.8	33.6	38.4	43.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)