

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P309191

Luminaire Tested: **24FCZ2-30-UNV-L82765-HRP-CA08-W2A-U-5500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P309191
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L82765-HRP-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2187.0 lumens
Efficiency: N/A
Efficacy: 90.7 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

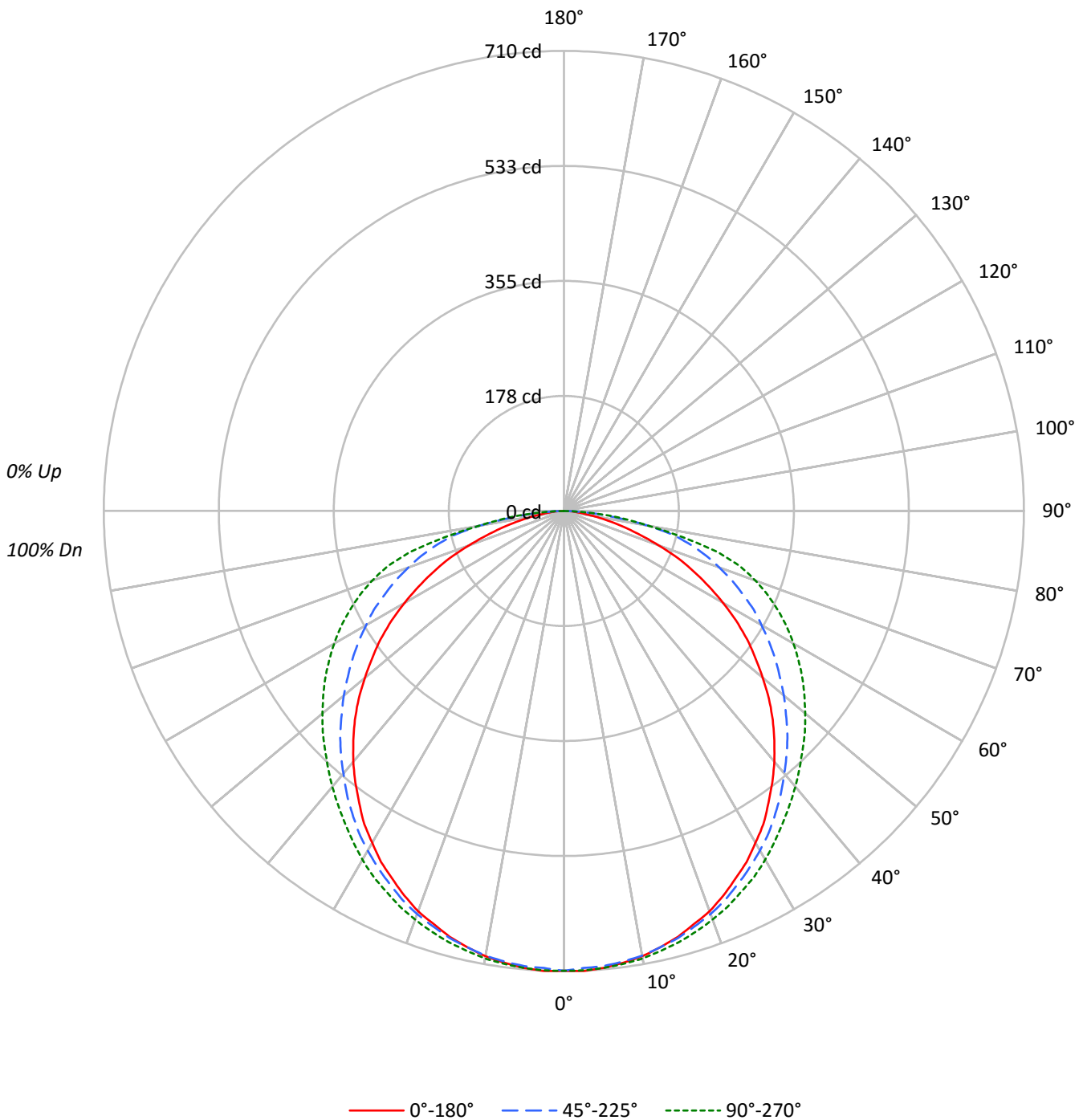
Input Watts (W): 24.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		
	1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82	82	82	82	82	82		
	2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67	67	67	67	67	67		
	3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56	56	56	56	56	56		
	4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48	48	48	48	48	48		
	5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41	41	41	41	41	41		
	6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36	36	36	36	36	36		
	7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31	31	31	31	31	31		
	8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28	28	28	28	28	28		
	9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25	25	25	25	25	25		
	10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23	23	23	23	23	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	955	955	955
5°	956	952	956
10°	953	952	958
15°	948	950	959
20°	941	948	961
25°	930	943	962
30°	919	940	966
35°	904	935	967
40°	888	929	976
45°	868	929	991
50°	839	928	1018
55°	810	934	1054
60°	764	949	1101
65°	706	971	1163
70°	616	1005	1239
75°	500	1057	1280
80°	369	1036	1036
85°	283	763	863



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.2	3.1
10°-20°	193.0	8.8
20°-30°	293.9	13.4
30°-40°	356.8	16.3
40°-50°	377.0	17.2
50°-60°	355.7	16.3
60°-70°	295.8	13.5
70°-80°	194.6	8.9
80°-90°	53.0	2.4
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°	554.1	25.3
0°-40°	910.9	41.7
0°-60°	1643.6	75.2
0°-90°	2187.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2187.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	708	708	705	708	708	67
15°	680	681	682	688	688	192
25°	626	630	635	646	648	289
35°	550	557	570	584	589	344
45°	456	465	488	512	521	351
55°	345	360	398	436	450	307
65°	222	247	305	350	365	219
75°	96	140	203	241	246	104
85°	18	40	49	55	56	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	709.6	709.6	709.6	709.6	709.6
2.5°	710.5	709.6	705.9	709.6	709.6
5°	707.7	707.7	705.0	707.7	707.7
7.5°	703.2	703.2	701.3	705.0	705.0
10°	697.7	697.7	696.8	701.3	701.3
12.5°	689.4	690.3	689.4	694.9	694.9
15°	680.3	681.2	682.1	688.5	688.5
17.5°	668.4	670.2	672.0	679.4	680.3
20°	657.4	658.3	662.0	670.2	671.1
22.5°	642.7	645.5	650.1	658.3	661.0
25°	626.3	629.9	635.4	646.4	648.2
27.5°	610.7	613.4	620.8	632.7	636.3
30°	591.5	596.0	605.2	617.1	621.7
32.5°	573.2	577.7	588.7	601.5	605.2
35°	550.3	556.7	569.5	584.1	588.7
37.5°	528.3	534.7	550.3	566.7	572.2
40°	505.4	512.7	529.2	548.4	555.8
42.5°	480.7	490.8	509.1	530.1	538.4
45°	456.0	465.1	488.0	511.8	521.0
47.5°	429.4	440.4	465.1	493.5	504.5
50°	401.0	414.8	443.1	474.3	486.2
52.5°	372.6	388.2	420.3	455.0	467.9
55°	345.2	359.8	398.3	435.8	449.5
57.5°	315.0	333.3	375.4	415.7	429.4
60°	283.8	304.0	352.5	394.6	409.3
62.5°	252.7	275.6	330.5	372.6	388.2
65°	221.6	247.2	304.9	349.8	365.3
67.5°	191.4	219.7	281.1	325.9	341.5
70°	156.6	192.3	255.4	299.4	315.0
72.5°	124.5	165.7	230.7	271.9	285.7
75°	96.1	140.1	203.3	240.8	246.3
77.5°	70.5	114.4	174.9	187.7	188.6
80°	47.6	91.6	133.7	131.8	133.7
82.5°	31.1	68.7	84.2	94.3	95.2
85°	18.3	40.3	49.4	54.9	55.9
87.5°	9.2	13.7	17.4	18.3	20.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)