

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: P309405

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CP250-W2A-U-4500K**

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: P309405
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: 24FCZ2-40-UNV-L82765-HRP-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 4500K 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: 2647.0 lumens
Efficiency: N/A
Efficacy: 79.5 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

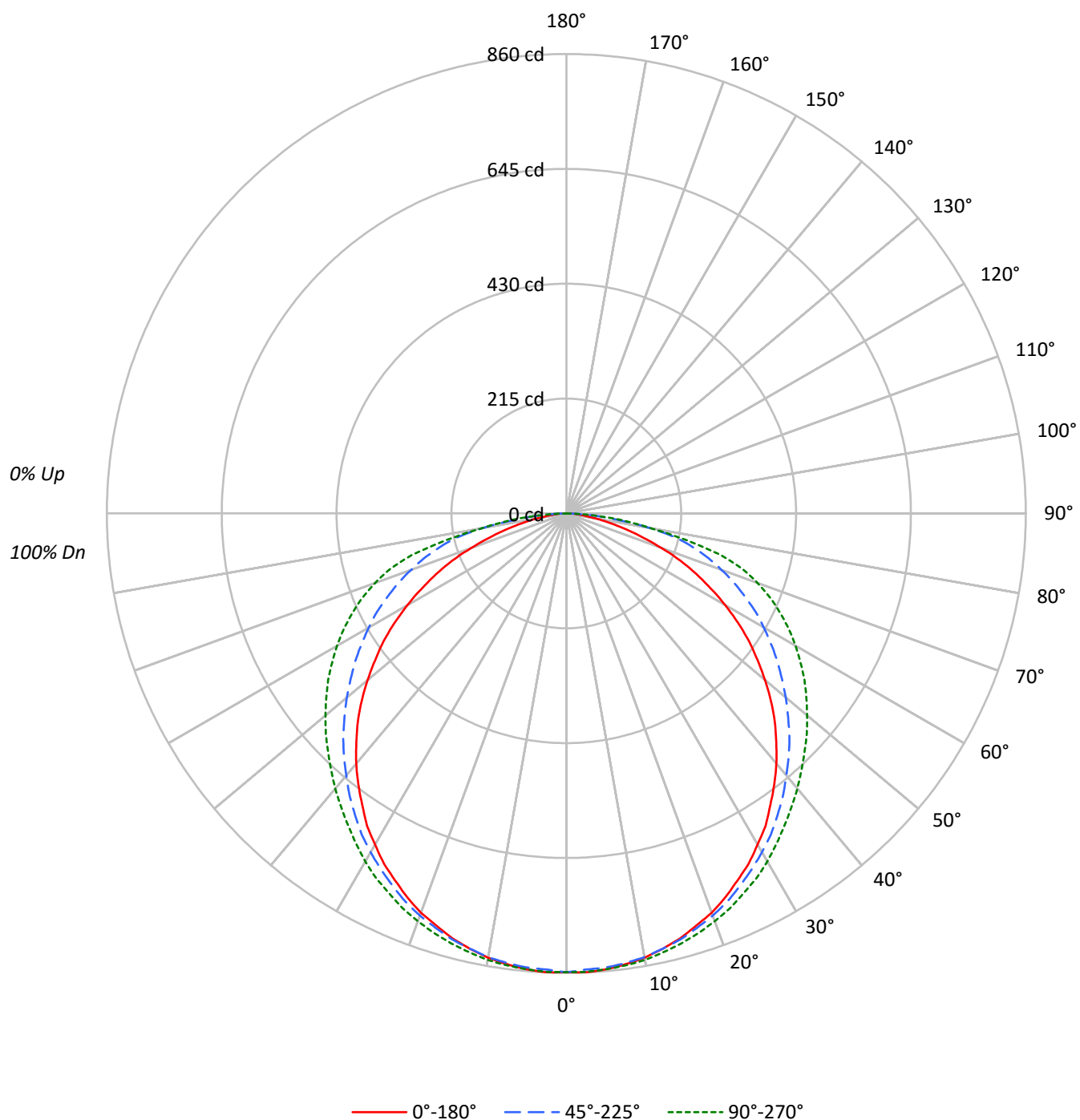
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1156	1156	1156
5°	1157	1152	1157
10°	1154	1152	1160
15°	1147	1150	1161
20°	1139	1147	1163
25°	1125	1142	1165
30°	1112	1138	1169
35°	1094	1132	1170
40°	1074	1125	1182
45°	1050	1124	1200
50°	1016	1123	1232
55°	980	1131	1276
60°	924	1148	1333
65°	854	1175	1408
70°	745	1216	1500
75°	605	1279	1550
80°	446	1254	1254
85°	343	923	1044



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.4	3.1
10°-20°	233.6	8.8
20°-30°	355.7	13.4
30°-40°	431.9	16.3
40°-50°	456.3	17.2
50°-60°	430.5	16.3
60°-70°	358.0	13.5
70°-80°	235.5	8.9
80°-90°	64.2	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°	670.7	25.3
0°-40°	1102.5	41.7
0°-60°	1989.3	75.2
0°-90°	2647.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2647.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	859	859	859	859	859	
5°	857	857	853	857	857	81
15°	823	824	826	833	833	232
25°	758	762	769	782	785	350
35°	666	674	689	707	712	417
45°	552	563	591	620	630	425
55°	418	436	482	528	544	372
65°	268	299	369	423	442	265
75°	116	170	246	291	298	125
85°	22	49	60	66	68	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	858.8	858.8	858.8	858.8	858.8
2.5°	859.9	858.8	854.4	858.8	858.8
5°	856.6	856.6	853.3	856.6	856.6
7.5°	851.1	851.1	848.8	853.3	853.3
10°	844.4	844.4	843.3	848.8	848.8
12.5°	834.4	835.5	834.4	841.1	841.1
15°	823.4	824.5	825.6	833.3	833.3
17.5°	809.0	811.2	813.4	822.3	823.4
20°	795.7	796.8	801.2	811.2	812.3
22.5°	777.9	781.3	786.8	796.8	800.1
25°	758.0	762.4	769.1	782.4	784.6
27.5°	739.1	742.5	751.3	765.7	770.2
30°	715.9	721.4	732.5	746.9	752.4
32.5°	693.7	699.2	712.5	728.1	732.5
35°	666.0	673.8	689.3	707.0	712.5
37.5°	639.4	647.2	666.0	685.9	692.6
40°	611.7	620.6	640.5	663.8	672.7
42.5°	581.8	594.0	616.1	641.6	651.6
45°	551.9	562.9	590.6	619.5	630.5
47.5°	519.7	533.0	562.9	597.3	610.6
50°	485.4	502.0	536.3	574.0	588.4
52.5°	451.0	469.9	508.6	550.8	566.3
55°	417.8	435.5	482.0	527.5	544.1
57.5°	381.2	403.4	454.3	503.1	519.7
60°	343.5	367.9	426.6	477.6	495.3
62.5°	305.9	333.6	400.0	451.0	469.9
65°	268.2	299.2	369.0	423.3	442.2
67.5°	231.6	266.0	340.2	394.5	413.3
70°	189.5	232.7	309.2	362.4	381.2
72.5°	150.7	200.6	279.3	329.1	345.7
75°	116.4	169.5	246.0	291.4	298.1
77.5°	85.3	138.5	211.7	227.2	228.3
80°	57.6	110.8	161.8	159.6	161.8
82.5°	37.7	83.1	102.0	114.1	115.2
85°	22.2	48.8	59.8	66.5	67.6
87.5°	11.1	16.6	21.1	22.2	24.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)