

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: P313155

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-HRP-CP187-W2A-U-3000K**

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: P313155
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: 24FCZ2-40HE-UNV-L83050-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3000K 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: 2558.0 lumens
Efficiency: N/A
Efficacy: 84.4 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

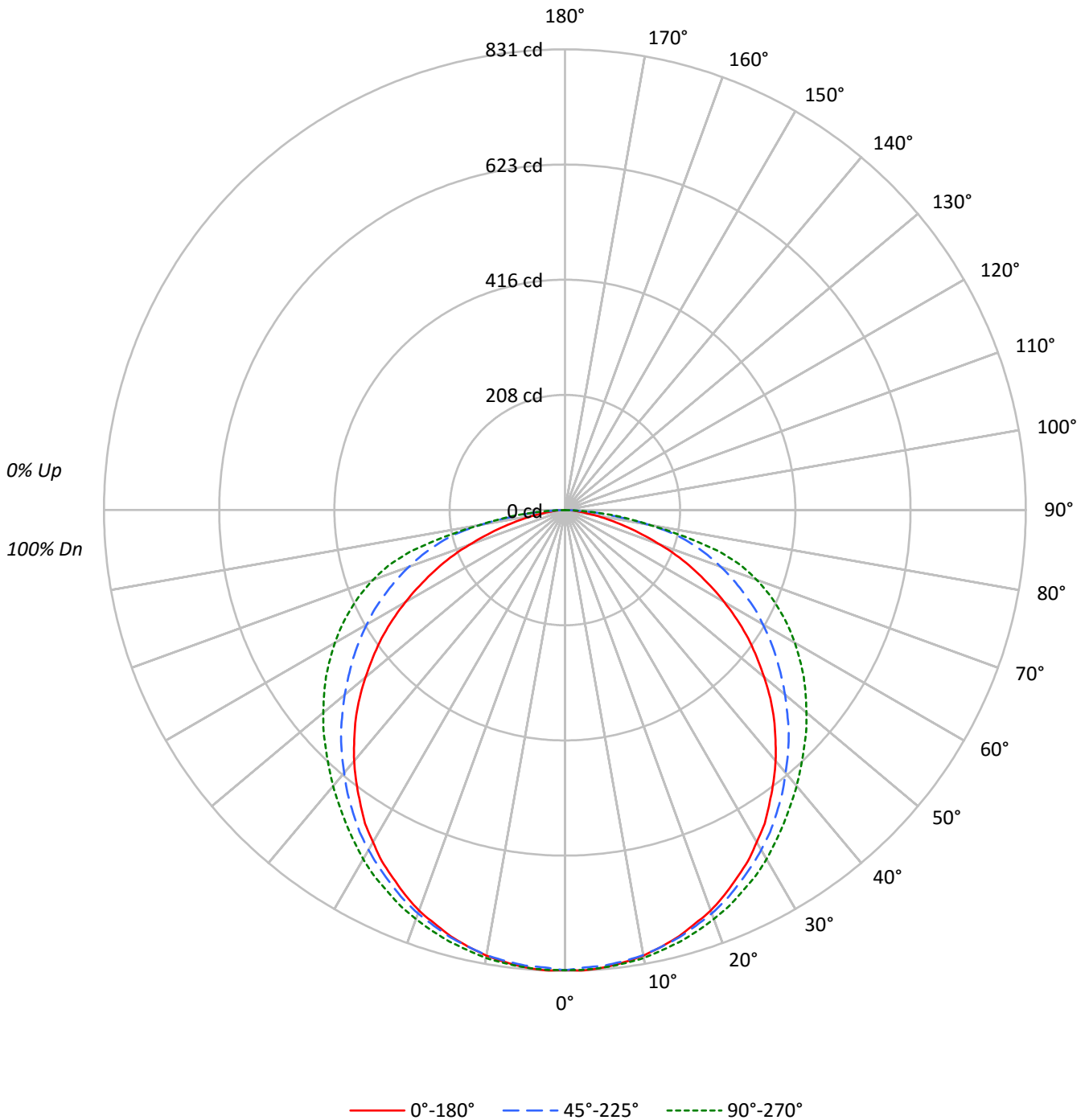
Input Watts (W): 30.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1117	1117	1117
5°	1118	1114	1118
10°	1115	1113	1121
15°	1108	1111	1122
20°	1101	1109	1124
25°	1087	1103	1126
30°	1075	1100	1130
35°	1057	1094	1131
40°	1038	1087	1142
45°	1015	1086	1159
50°	982	1085	1190
55°	947	1093	1233
60°	893	1109	1288
65°	825	1135	1360
70°	720	1175	1449
75°	584	1236	1498
80°	432	1212	1212
85°	330	892	1008



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.6	3.1
10°-20°	225.8	8.8
20°-30°	343.7	13.4
30°-40°	417.3	16.3
40°-50°	440.9	17.2
50°-60°	416.1	16.3
60°-70°	345.9	13.5
70°-80°	227.6	8.9
80°-90°	62.0	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°	648.1	25.3
0°-40°	1065.5	41.7
0°-60°	1922.4	75.2
0°-90°	2558.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2558.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	830	830	830	830	830	
5°	828	828	825	828	828	79
15°	796	797	798	805	805	224
25°	732	737	743	756	758	338
35°	644	651	666	683	689	403
45°	533	544	571	599	609	411
55°	404	421	466	510	526	360
65°	259	289	357	409	427	256
75°	112	164	238	282	288	121
85°	21	47	58	64	65	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	829.9	829.9	829.9	829.9	829.9
2.5°	831.0	829.9	825.7	829.9	829.9
5°	827.8	827.8	824.6	827.8	827.8
7.5°	822.4	822.4	820.3	824.6	824.6
10°	816.0	816.0	815.0	820.3	820.3
12.5°	806.4	807.5	806.4	812.8	812.8
15°	795.7	796.7	797.8	805.3	805.3
17.5°	781.8	783.9	786.0	794.6	795.7
20°	768.9	770.0	774.3	783.9	785.0
22.5°	751.8	755.0	760.3	770.0	773.2
25°	732.5	736.8	743.2	756.1	758.2
27.5°	714.3	717.5	726.1	740.0	744.3
30°	691.8	697.2	707.9	721.8	727.1
32.5°	670.4	675.7	688.6	703.6	707.9
35°	643.6	651.1	666.1	683.2	688.6
37.5°	617.9	625.4	643.6	662.9	669.3
40°	591.1	599.7	619.0	641.5	650.0
42.5°	562.2	574.0	595.4	620.0	629.7
45°	533.3	544.0	570.8	598.6	609.3
47.5°	502.3	515.1	544.0	577.2	590.1
50°	469.1	485.1	518.3	554.7	568.6
52.5°	435.9	454.1	491.5	532.2	547.2
55°	403.7	420.9	465.8	509.7	525.8
57.5°	368.4	389.8	439.1	486.2	502.3
60°	332.0	355.5	412.3	461.6	478.7
62.5°	295.6	322.3	386.6	435.9	454.1
65°	259.2	289.1	356.6	409.1	427.3
67.5°	223.8	257.0	328.8	381.2	399.4
70°	183.1	224.9	298.8	350.2	368.4
72.5°	145.6	193.8	269.9	318.1	334.1
75°	112.4	163.8	237.7	281.6	288.1
77.5°	82.5	133.9	204.5	219.5	220.6
80°	55.7	107.1	156.4	154.2	156.4
82.5°	36.4	80.3	98.5	110.3	111.4
85°	21.4	47.1	57.8	64.3	65.3
87.5°	10.7	16.1	20.3	21.4	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)