

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: P313183

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP187-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: P313183
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-L83050-HRP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
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: 2852.0 lumens
Efficiency: N/A
Efficacy: 83.1 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

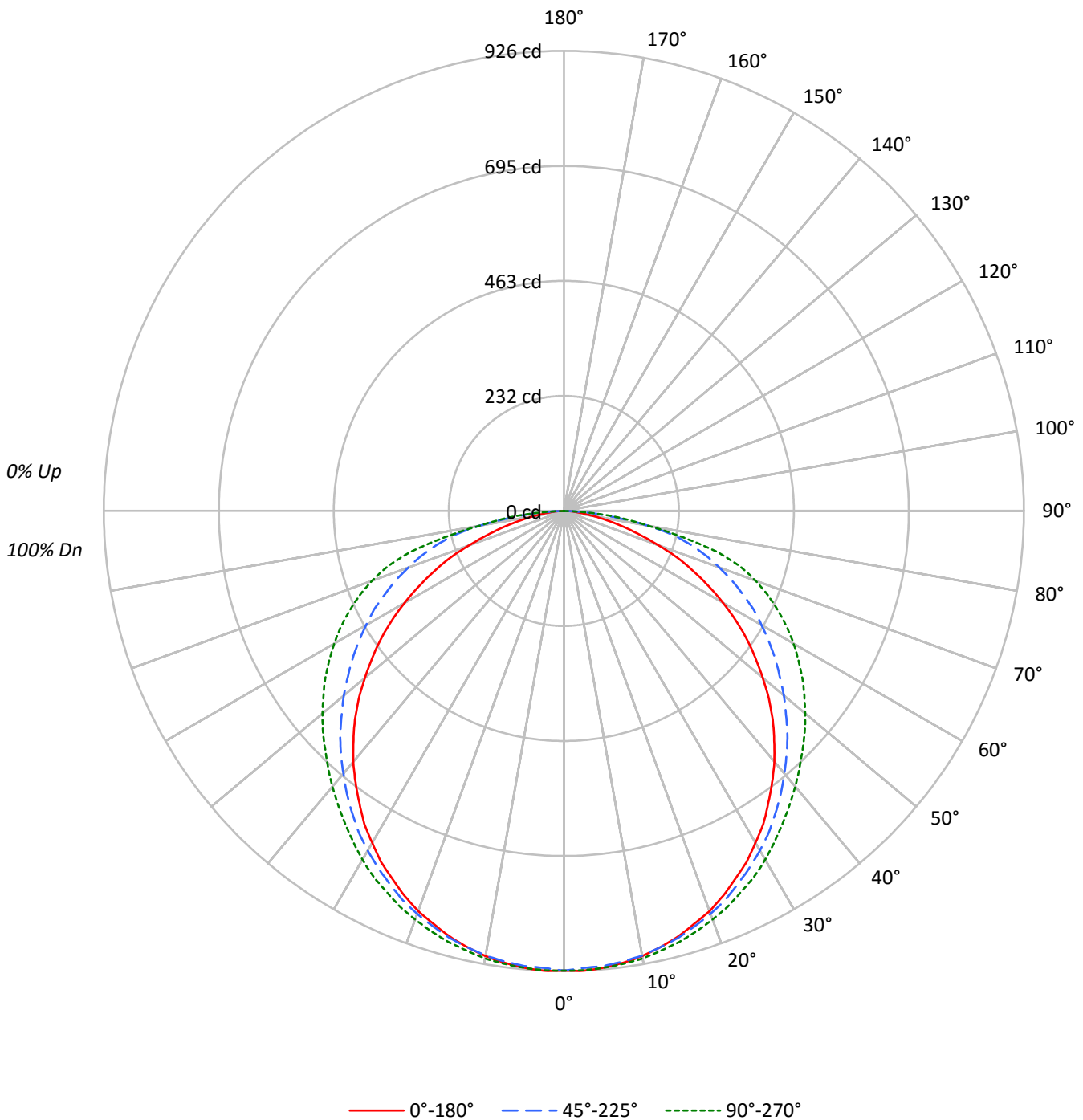
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1245	1245	1245
5°	1246	1242	1246
10°	1243	1241	1250
15°	1236	1239	1251
20°	1228	1236	1253
25°	1212	1230	1255
30°	1198	1226	1260
35°	1179	1220	1261
40°	1158	1212	1273
45°	1131	1211	1293
50°	1095	1210	1327
55°	1056	1218	1375
60°	996	1237	1436
65°	920	1266	1517
70°	803	1310	1616
75°	652	1378	1670
80°	481	1351	1351
85°	369	996	1124



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.7	3.1
10°-20°	251.7	8.8
20°-30°	383.2	13.4
30°-40°	465.3	16.3
40°-50°	491.6	17.2
50°-60°	463.9	16.3
60°-70°	385.7	13.5
70°-80°	253.7	8.9
80°-90°	69.2	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°	722.6	25.3
0°-40°	1187.9	41.7
0°-60°	2143.4	75.2
0°-90°	2852.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2852.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	923	923	919	923	923	88
15°	887	888	890	898	898	250
25°	817	822	829	843	845	377
35°	718	726	743	762	768	449
45°	595	606	636	667	679	458
55°	450	469	519	568	586	401
65°	289	322	398	456	476	286
75°	125	183	265	314	321	135
85°	24	52	64	72	73	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	925.3	925.3	925.3	925.3	925.3
2.5°	926.5	925.3	920.6	925.3	925.3
5°	922.9	922.9	919.4	922.9	922.9
7.5°	917.0	917.0	914.6	919.4	919.4
10°	909.8	909.8	908.6	914.6	914.6
12.5°	899.1	900.3	899.1	906.2	906.2
15°	887.1	888.3	889.5	897.9	897.9
17.5°	871.6	874.0	876.4	885.9	887.1
20°	857.3	858.5	863.2	874.0	875.2
22.5°	838.2	841.8	847.7	858.5	862.1
25°	816.7	821.5	828.6	842.9	845.3
27.5°	796.4	800.0	809.5	825.0	829.8
30°	771.3	777.3	789.2	804.7	810.7
32.5°	747.4	753.4	767.7	784.4	789.2
35°	717.6	725.9	742.7	761.8	767.7
37.5°	688.9	697.3	717.6	739.1	746.2
40°	659.1	668.6	690.1	715.2	724.7
42.5°	626.8	640.0	663.9	691.3	702.1
45°	594.6	606.5	636.4	667.4	679.4
47.5°	560.0	574.3	606.5	643.6	657.9
50°	523.0	540.9	577.9	618.5	634.0
52.5°	485.9	506.2	548.0	593.4	610.1
55°	450.1	469.2	519.4	568.3	586.2
57.5°	410.7	434.6	489.5	542.1	560.0
60°	370.1	396.4	459.7	514.6	533.7
62.5°	329.5	359.4	431.0	485.9	506.2
65°	288.9	322.4	397.6	456.1	476.4
67.5°	249.5	286.6	366.6	425.1	445.4
70°	204.2	250.7	333.1	390.4	410.7
72.5°	162.4	216.1	300.9	354.6	372.5
75°	125.4	182.7	265.1	314.0	321.2
77.5°	91.9	149.2	228.0	244.8	246.0
80°	62.1	119.4	174.3	171.9	174.3
82.5°	40.6	89.5	109.8	123.0	124.2
85°	23.9	52.5	64.5	71.6	72.8
87.5°	11.9	17.9	22.7	23.9	26.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)