

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: P310698

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-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: P310698
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-L82765-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 3289.0 lumens
Efficiency: N/A
Efficacy: 108.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

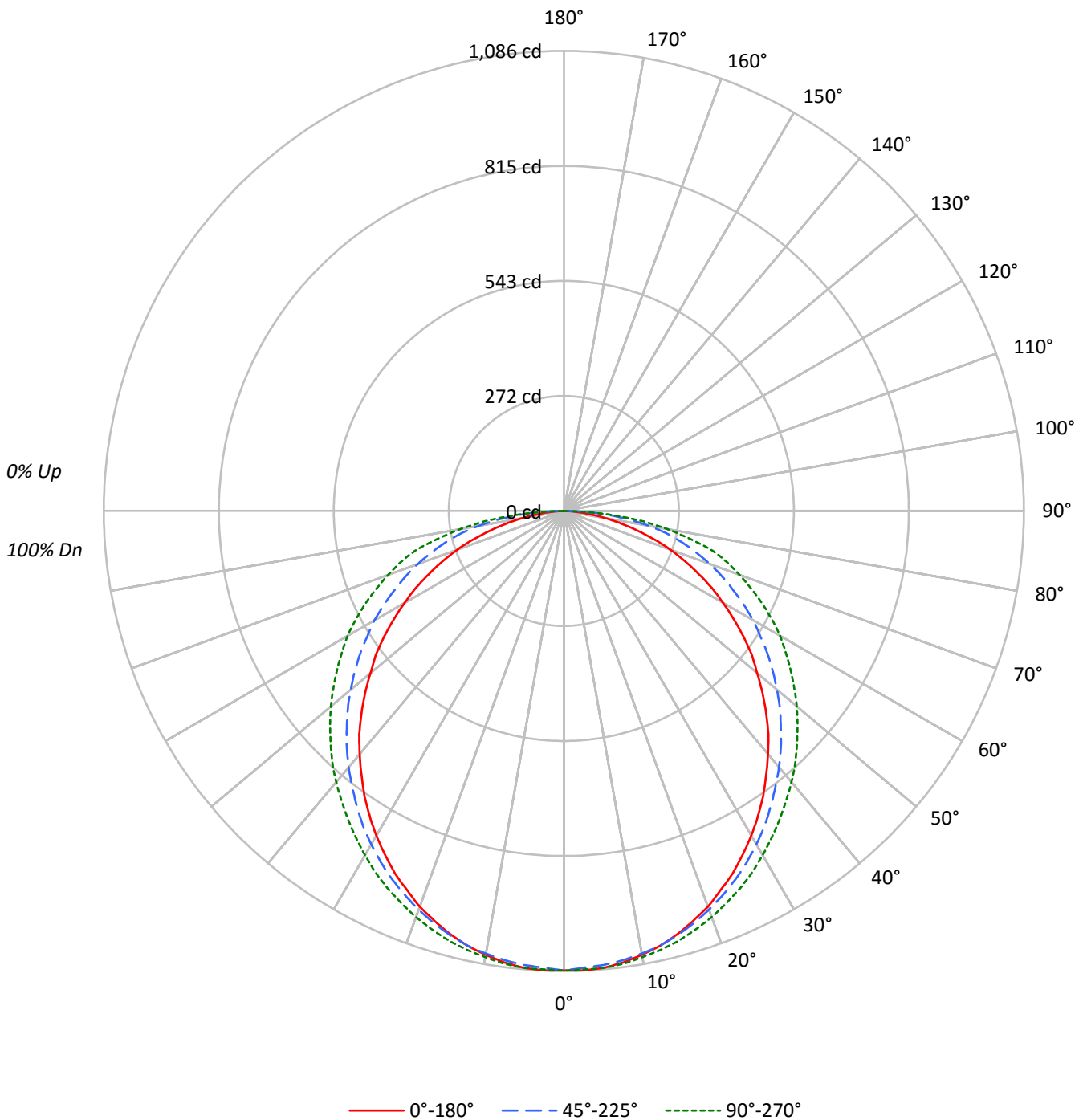
Input Watts (W): 30.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1459	1459	1459
5°	1462	1453	1462
10°	1454	1449	1461
15°	1441	1444	1462
20°	1423	1434	1461
25°	1401	1424	1460
30°	1375	1412	1458
35°	1348	1398	1459
40°	1317	1388	1468
45°	1285	1379	1480
50°	1247	1375	1503
55°	1216	1377	1533
60°	1169	1389	1586
65°	1115	1404	1643
70°	1056	1447	1734
75°	941	1509	1895
80°	804	1598	1936
85°	573	1584	1853



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.7	3.1
10°-20°	293.5	8.9
20°-30°	443.3	13.5
30°-40°	534.3	16.2
40°-50°	561.0	17.1
50°-60°	524.8	16.0
60°-70°	433.4	13.2
70°-80°	295.3	9.0
80°-90°	100.7	3.1
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°	839.5	25.5
0°-40°	1373.8	41.8
0°-60°	2459.6	74.8
0°-90°	3289.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3289.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1085	1085	1085	1085	1085	
5°	1082	1081	1076	1082	1082	103
15°	1034	1036	1037	1048	1050	292
25°	944	948	959	978	983	434
35°	821	829	851	880	888	513
45°	676	690	725	764	778	521
55°	518	539	587	635	654	463
65°	350	380	441	496	516	347
75°	181	223	290	345	364	193
85°	37	73	103	116	120	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1084.7	1084.7	1084.7	1084.7	1084.7
2.5°	1085.8	1084.7	1079.2	1084.7	1083.6
5°	1082.5	1081.4	1076.0	1082.5	1082.5
7.5°	1074.9	1074.9	1069.4	1077.0	1078.1
10°	1064.0	1064.0	1060.7	1069.4	1069.4
12.5°	1050.9	1050.9	1050.9	1059.6	1060.7
15°	1034.5	1035.6	1036.7	1047.6	1049.8
17.5°	1014.8	1017.0	1020.3	1033.4	1035.6
20°	994.1	996.3	1001.8	1017.0	1020.3
22.5°	967.9	973.4	981.0	998.5	1001.8
25°	943.9	948.3	959.2	977.7	983.2
27.5°	914.5	921.0	935.2	954.8	962.5
30°	885.0	891.5	909.0	931.9	938.5
32.5°	853.3	863.2	881.7	905.7	913.4
35°	820.6	829.3	851.2	879.5	888.3
37.5°	784.6	796.6	820.6	851.2	862.1
40°	749.7	762.8	790.1	822.8	835.9
42.5°	714.8	727.9	758.4	795.5	808.6
45°	675.5	689.7	724.6	763.9	778.0
47.5°	636.2	653.6	691.8	733.3	748.6
50°	595.8	615.5	656.9	700.6	718.0
52.5°	559.8	578.4	622.0	668.9	685.3
55°	518.3	539.1	587.1	635.1	653.6
57.5°	475.8	498.7	550.0	602.4	620.9
60°	434.3	459.4	516.2	568.5	589.3
62.5°	393.9	419.0	478.0	532.5	553.3
65°	350.3	379.7	440.9	496.5	516.2
67.5°	308.8	340.5	404.8	459.4	479.1
70°	268.4	299.0	367.7	421.2	440.9
72.5°	224.8	259.7	328.5	384.1	404.8
75°	181.1	222.6	290.3	344.8	364.5
77.5°	140.8	183.3	251.0	295.7	305.5
80°	103.7	147.3	206.2	237.9	249.9
82.5°	66.6	110.2	157.1	180.1	189.9
85°	37.1	73.1	102.6	115.7	120.0
87.5°	15.3	31.6	41.5	46.9	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)