

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: P309397

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CP187-W2A-U-5000K**

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: P309397
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-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 5000K 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: 2705.0 lumens
Efficiency: N/A
Efficacy: 80.7 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

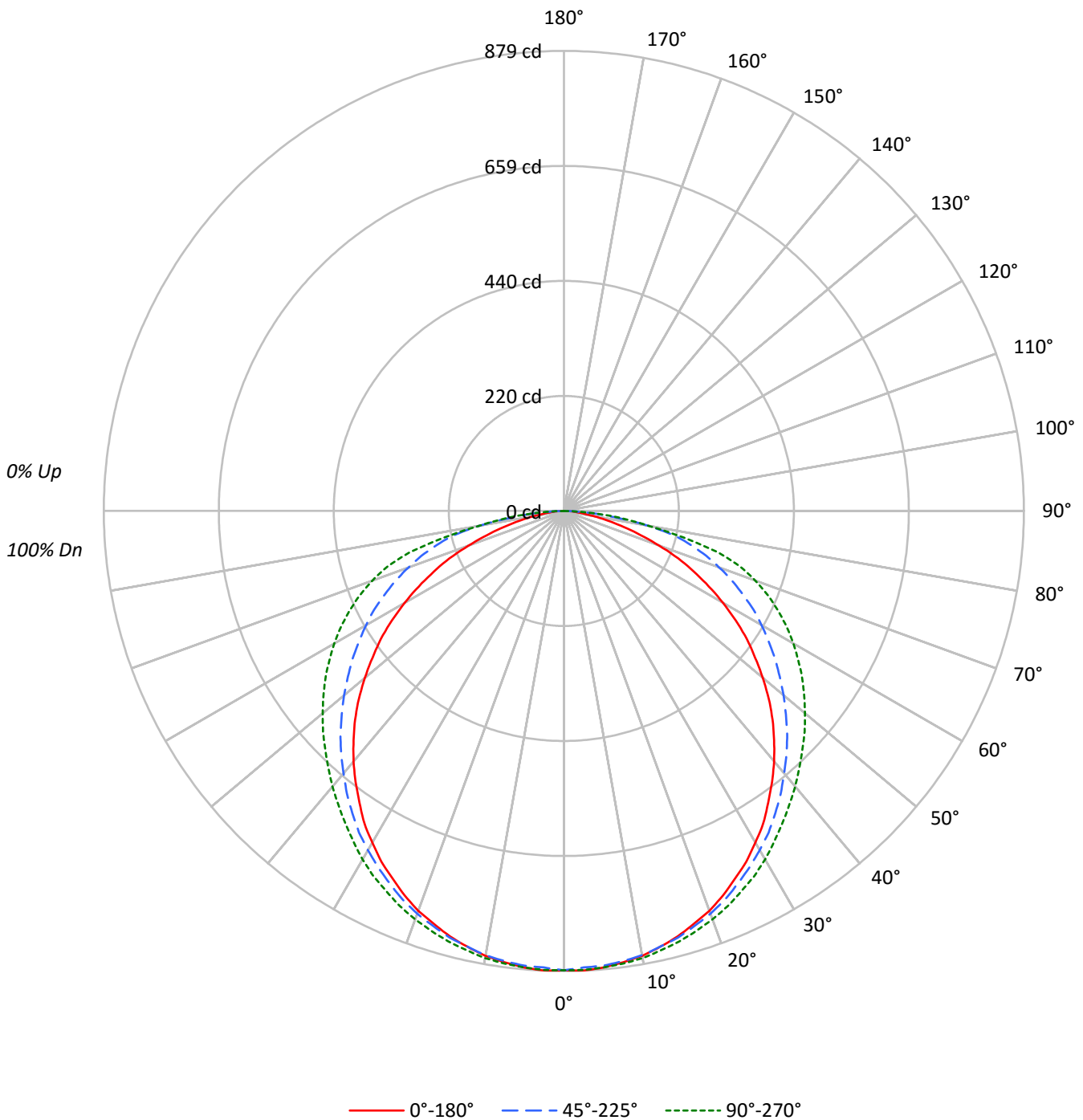
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1181	1181	1181
5°	1182	1178	1182
10°	1179	1177	1185
15°	1172	1175	1186
20°	1164	1172	1189
25°	1150	1167	1190
30°	1137	1163	1195
35°	1118	1157	1196
40°	1098	1150	1207
45°	1073	1149	1226
50°	1038	1147	1259
55°	1001	1156	1304
60°	945	1173	1362
65°	872	1201	1438
70°	762	1243	1533
75°	618	1307	1583
80°	456	1281	1281
85°	349	945	1067



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.1	3.1
10°-20°	238.7	8.8
20°-30°	363.5	13.4
30°-40°	441.3	16.3
40°-50°	466.3	17.2
50°-60°	440.0	16.3
60°-70°	365.8	13.5
70°-80°	240.7	8.9
80°-90°	65.6	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°	685.3	25.3
0°-40°	1126.7	41.7
0°-60°	2032.9	75.2
0°-90°	2705.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2705.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	878	878	878	878	878	
5°	875	875	872	875	875	83
15°	841	842	844	852	852	237
25°	775	779	786	800	802	357
35°	681	688	704	722	728	426
45°	564	575	604	633	644	434
55°	427	445	493	539	556	380
65°	274	306	377	433	452	271
75°	119	173	251	298	305	128
85°	23	50	61	68	69	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	877.6	877.6	877.6	877.6	877.6
2.5°	878.8	877.6	873.1	877.6	877.6
5°	875.4	875.4	872.0	875.4	875.4
7.5°	869.7	869.7	867.4	872.0	872.0
10°	862.9	862.9	861.8	867.4	867.4
12.5°	852.7	853.9	852.7	859.5	859.5
15°	841.4	842.5	843.7	851.6	851.6
17.5°	826.7	828.9	831.2	840.3	841.4
20°	813.1	814.2	818.8	828.9	830.1
22.5°	795.0	798.4	804.0	814.2	817.6
25°	774.6	779.1	785.9	799.5	801.8
27.5°	755.3	758.7	767.8	782.5	787.0
30°	731.6	737.2	748.5	763.3	768.9
32.5°	708.9	714.6	728.2	744.0	748.5
35°	680.6	688.5	704.4	722.5	728.2
37.5°	653.4	661.3	680.6	701.0	707.8
40°	625.1	634.2	654.5	678.3	687.4
42.5°	594.5	607.0	629.6	655.7	665.9
45°	564.0	575.3	603.6	633.0	644.4
47.5°	531.1	544.7	575.3	610.4	624.0
50°	496.0	513.0	548.1	586.6	601.3
52.5°	460.9	480.2	519.8	562.8	578.7
55°	426.9	445.0	492.6	539.0	556.0
57.5°	389.6	412.2	464.3	514.1	531.1
60°	351.1	376.0	436.0	488.1	506.2
62.5°	312.6	340.9	408.8	460.9	480.2
65°	274.0	305.8	377.1	432.6	451.8
67.5°	236.7	271.8	347.7	403.1	422.4
70°	193.6	237.8	316.0	370.3	389.6
72.5°	154.0	205.0	285.4	336.3	353.3
75°	118.9	173.3	251.4	297.8	304.6
77.5°	87.2	141.6	216.3	232.1	233.3
80°	58.9	113.2	165.3	163.1	165.3
82.5°	38.5	84.9	104.2	116.6	117.8
85°	22.6	49.8	61.2	67.9	69.1
87.5°	11.3	17.0	21.5	22.6	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)