

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: P313156

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-HRP-CP187-W2A-U-3500K**

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: P313156
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-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3500K 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: 2707.0 lumens
Efficiency: N/A
Efficacy: 89.0 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

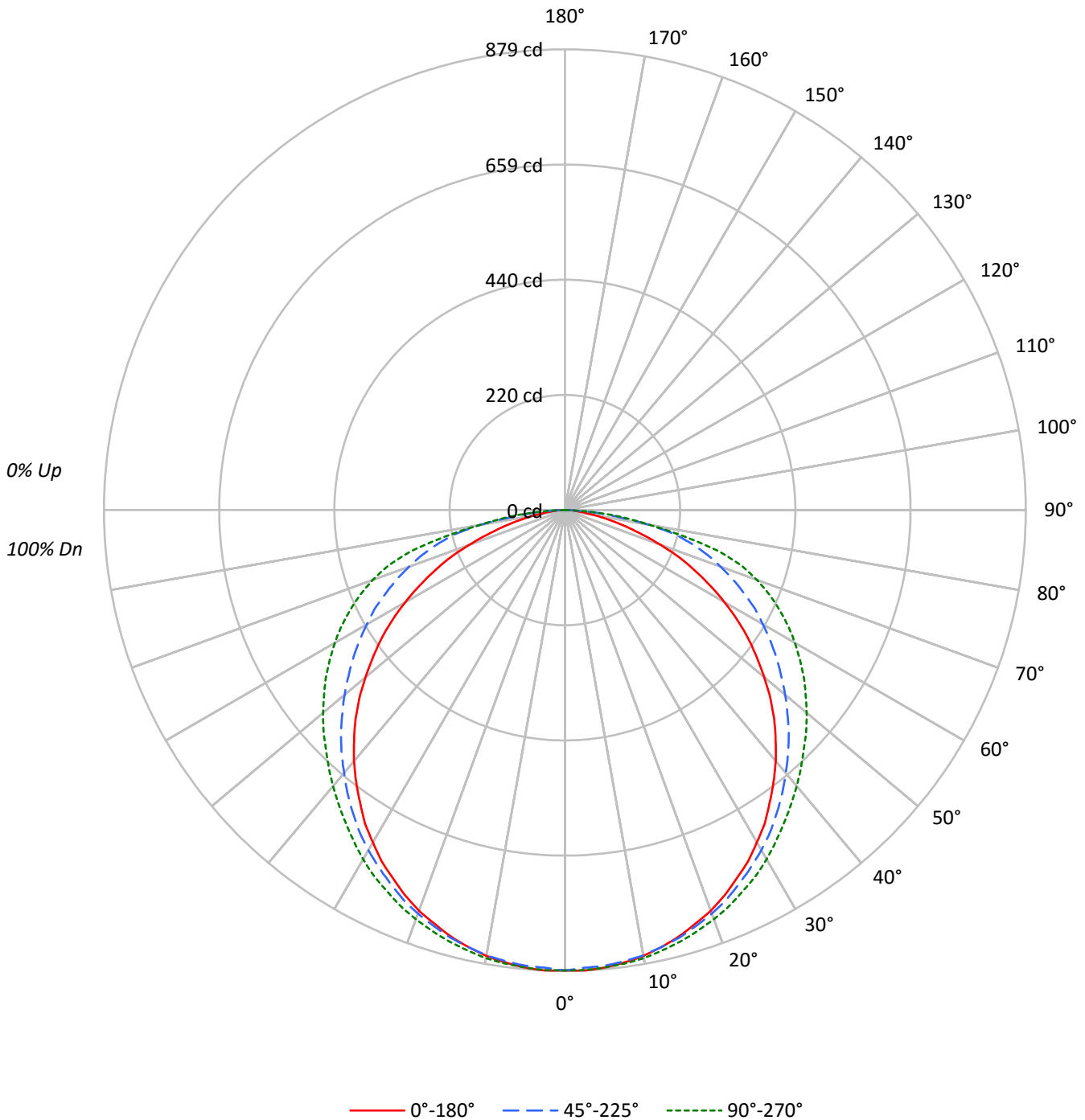
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1182	1182	1182
5°	1183	1179	1183
10°	1180	1178	1186
15°	1173	1176	1187
20°	1165	1173	1189
25°	1151	1168	1191
30°	1137	1164	1196
35°	1119	1158	1197
40°	1099	1150	1208
45°	1074	1149	1227
50°	1039	1148	1260
55°	1002	1156	1305
60°	945	1174	1363
65°	873	1202	1440
70°	762	1244	1533
75°	619	1308	1585
80°	456	1282	1282
85°	350	945	1067



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.2	3.1
10°-20°	238.9	8.8
20°-30°	363.7	13.4
30°-40°	441.7	16.3
40°-50°	466.6	17.2
50°-60°	440.3	16.3
60°-70°	366.1	13.5
70°-80°	240.9	8.9
80°-90°	65.7	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°	685.9	25.3
0°-40°	1127.5	41.7
0°-60°	2034.4	75.2
0°-90°	2707.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2707.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	878	878	878	878	878	
5°	876	876	873	876	876	83
15°	842	843	844	852	852	237
25°	775	780	786	800	802	358
35°	681	689	705	723	729	426
45°	564	576	604	634	645	435
55°	427	445	493	539	556	381
65°	274	306	377	433	452	271
75°	119	173	252	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°	878.3	878.3	878.3	878.3	878.3
2.5°	879.4	878.3	873.8	878.3	878.3
5°	876.0	876.0	872.6	876.0	876.0
7.5°	870.4	870.4	868.1	872.6	872.6
10°	863.6	863.6	862.4	868.1	868.1
12.5°	853.4	854.5	853.4	860.2	860.2
15°	842.0	843.2	844.3	852.2	852.2
17.5°	827.3	829.6	831.8	840.9	842.0
20°	813.7	814.8	819.4	829.6	830.7
22.5°	795.6	799.0	804.6	814.8	818.2
25°	775.2	779.7	786.5	800.1	802.4
27.5°	755.9	759.3	768.4	783.1	787.6
30°	732.1	737.8	749.1	763.8	769.5
32.5°	709.4	715.1	728.7	744.6	749.1
35°	681.1	689.0	704.9	723.0	728.7
37.5°	653.9	661.8	681.1	701.5	708.3
40°	625.6	634.6	655.0	678.8	687.9
42.5°	595.0	607.4	630.1	656.2	666.4
45°	564.4	575.7	604.0	633.5	644.8
47.5°	531.5	545.1	575.7	610.8	624.4
50°	496.4	513.4	548.5	587.0	601.8
52.5°	461.2	480.5	520.2	563.2	579.1
55°	427.2	445.4	493.0	539.4	556.4
57.5°	389.8	412.5	464.6	514.5	531.5
60°	351.3	376.2	436.3	488.4	506.6
62.5°	312.8	341.1	409.1	461.2	480.5
65°	274.3	306.0	377.4	432.9	452.2
67.5°	236.9	272.0	347.9	403.4	422.7
70°	193.8	238.0	316.2	370.6	389.8
72.5°	154.1	205.1	285.6	336.6	353.6
75°	119.0	173.4	251.6	298.1	304.9
77.5°	87.3	141.7	216.5	232.3	233.5
80°	58.9	113.3	165.5	163.2	165.5
82.5°	38.5	85.0	104.3	116.7	117.9
85°	22.7	49.9	61.2	68.0	69.1
87.5°	11.3	17.0	21.5	22.7	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)