

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: P309324

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CA08-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: P309324
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-L82765-HRP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 2870.0 lumens
Efficiency: N/A
Efficacy: 92.6 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

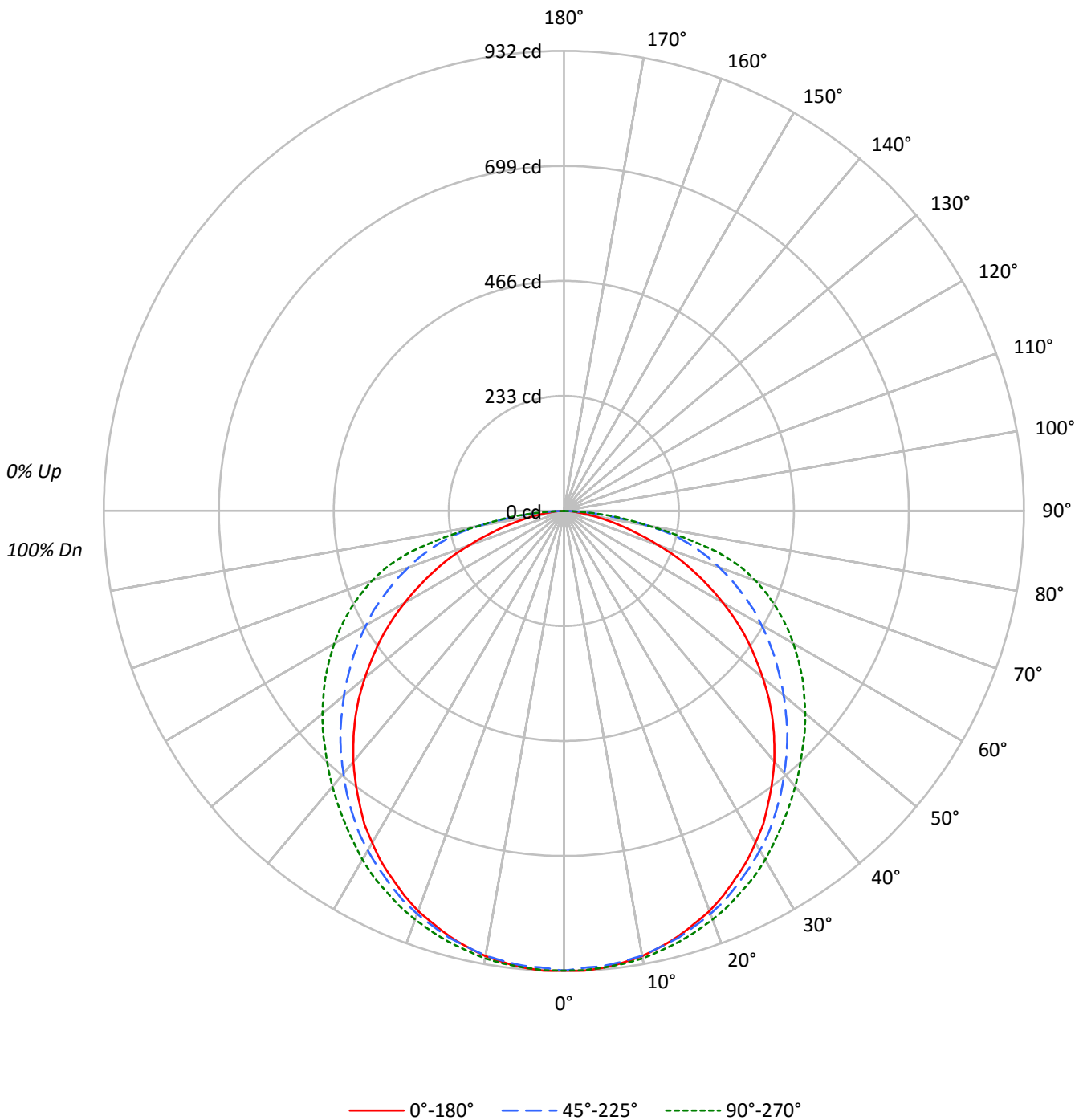
Input Watts (W): 31
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1253	1253	1253
5°	1254	1250	1254
10°	1251	1249	1257
15°	1243	1247	1259
20°	1235	1244	1261
25°	1220	1238	1263
30°	1206	1234	1267
35°	1186	1227	1269
40°	1165	1220	1281
45°	1139	1219	1301
50°	1102	1217	1335
55°	1063	1226	1384
60°	1002	1245	1445
65°	926	1274	1526
70°	808	1319	1626
75°	656	1386	1680
80°	484	1359	1359
85°	371	1002	1132



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.2	3.1
10°-20°	253.3	8.8
20°-30°	385.6	13.4
30°-40°	468.2	16.3
40°-50°	494.7	17.2
50°-60°	466.8	16.3
60°-70°	388.1	13.5
70°-80°	255.3	8.9
80°-90°	69.6	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°	727.2	25.3
0°-40°	1195.4	41.7
0°-60°	2156.9	75.2
0°-90°	2870.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2870.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	931	931	931	931	931	
5°	929	929	925	929	929	88
15°	893	894	895	904	904	252
25°	822	827	834	848	851	379
35°	722	730	747	767	773	452
45°	598	610	640	672	684	461
55°	453	472	523	572	590	403
65°	291	324	400	459	479	287
75°	126	184	267	316	323	136
85°	24	53	65	72	73	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	931.2	931.2	931.2	931.2	931.2
2.5°	932.4	931.2	926.4	931.2	931.2
5°	928.8	928.8	925.2	928.8	928.8
7.5°	922.8	922.8	920.4	925.2	925.2
10°	915.6	915.6	914.4	920.4	920.4
12.5°	904.7	905.9	904.7	911.9	911.9
15°	892.7	893.9	895.1	903.5	903.5
17.5°	877.1	879.5	881.9	891.5	892.7
20°	862.7	863.9	868.7	879.5	880.7
22.5°	843.5	847.1	853.1	863.9	867.5
25°	821.8	826.6	833.9	848.3	850.7
27.5°	801.4	805.0	814.6	830.2	835.1
30°	776.2	782.2	794.2	809.8	815.8
32.5°	752.1	758.2	772.6	789.4	794.2
35°	722.1	730.5	747.3	766.6	772.6
37.5°	693.3	701.7	722.1	743.7	750.9
40°	663.2	672.8	694.5	719.7	729.3
42.5°	630.8	644.0	668.0	695.7	706.5
45°	598.4	610.4	640.4	671.6	683.7
47.5°	563.5	577.9	610.4	647.6	662.0
50°	526.3	544.3	581.5	622.4	638.0
52.5°	489.0	509.4	551.5	597.2	614.0
55°	453.0	472.2	522.7	571.9	589.9
57.5°	413.3	437.4	492.6	545.5	563.5
60°	372.5	398.9	462.6	517.9	537.1
62.5°	331.6	361.7	433.7	489.0	509.4
65°	290.8	324.4	400.1	459.0	479.4
67.5°	251.1	288.4	368.9	427.7	448.2
70°	205.5	252.3	335.2	392.9	413.3
72.5°	163.4	217.5	302.8	356.8	374.9
75°	126.2	183.8	266.7	316.0	323.2
77.5°	92.5	150.2	229.5	246.3	247.5
80°	62.5	120.2	175.4	173.0	175.4
82.5°	40.9	90.1	110.5	123.8	125.0
85°	24.0	52.9	64.9	72.1	73.3
87.5°	12.0	18.0	22.8	24.0	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)