

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: P309359

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CP250-W2A-U-4000K**

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: P309359
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-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 4000K 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: 2617.0 lumens
Efficiency: N/A
Efficacy: 85.0 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

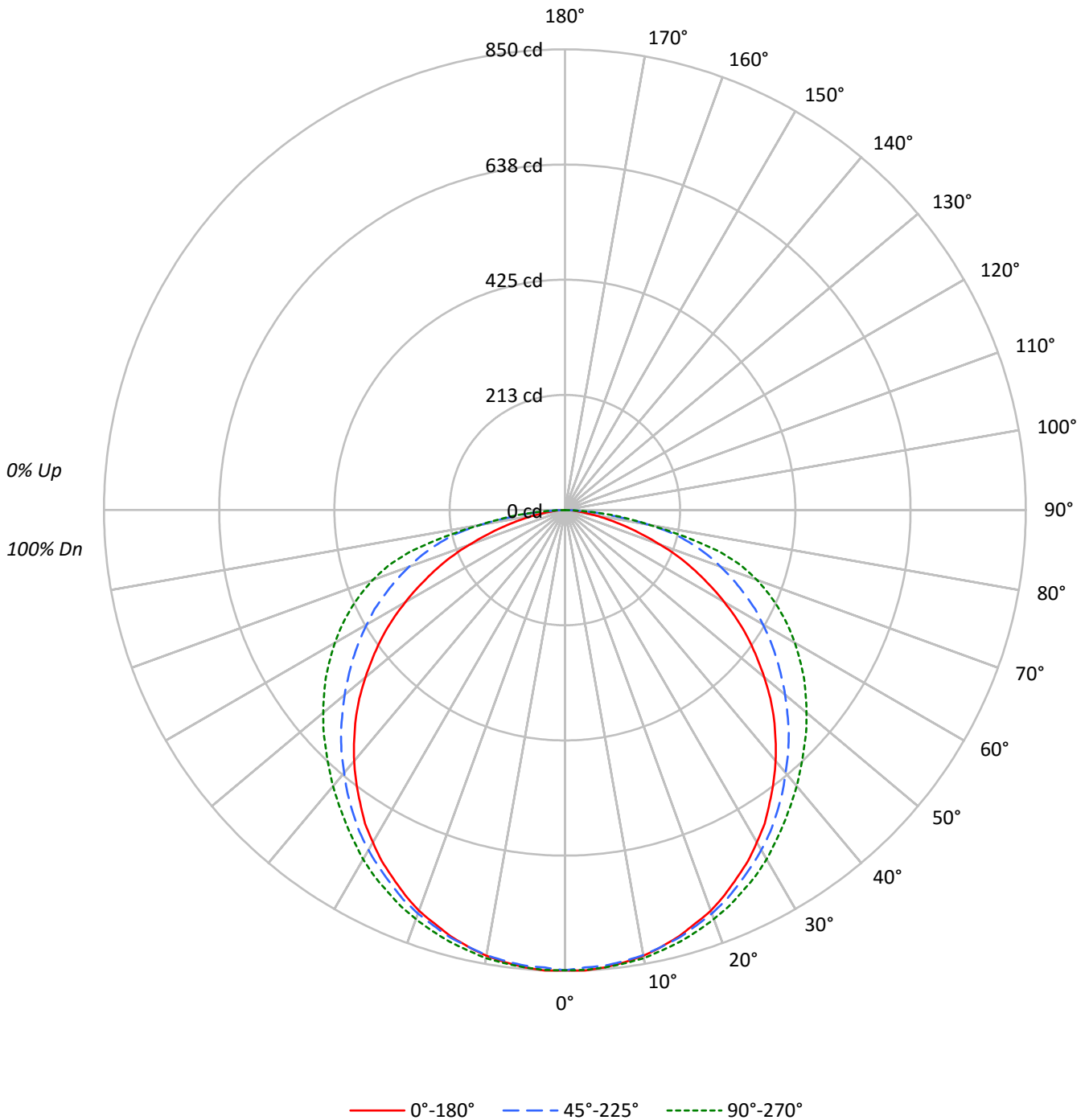
Input Watts (W): 30.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1142	1142	1142
5°	1144	1139	1144
10°	1141	1139	1147
15°	1134	1137	1148
20°	1126	1134	1150
25°	1113	1129	1152
30°	1100	1125	1156
35°	1082	1119	1157
40°	1062	1112	1168
45°	1038	1111	1186
50°	1005	1110	1218
55°	969	1118	1262
60°	914	1135	1318
65°	844	1161	1392
70°	737	1203	1483
75°	598	1264	1532
80°	442	1240	1240
85°	338	914	1031



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.4	3.1
10°-20°	231.0	8.8
20°-30°	351.6	13.4
30°-40°	427.0	16.3
40°-50°	451.1	17.2
50°-60°	425.7	16.3
60°-70°	353.9	13.5
70°-80°	232.8	8.9
80°-90°	63.5	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°	663.0	25.3
0°-40°	1090.0	41.7
0°-60°	1966.8	75.2
0°-90°	2617.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2617.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	849	849	849	849	849	
5°	847	847	844	847	847	80
15°	814	815	816	824	824	230
25°	749	754	760	774	776	346
35°	658	666	682	699	704	412
45°	546	557	584	612	623	420
55°	413	431	477	522	538	368
65°	265	296	365	418	437	262
75°	115	168	243	288	295	124
85°	22	48	59	66	67	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	849.1	849.1	849.1	849.1	849.1
2.5°	850.2	849.1	844.7	849.1	849.1
5°	846.9	846.9	843.6	846.9	846.9
7.5°	841.4	841.4	839.2	843.6	843.6
10°	834.8	834.8	833.7	839.2	839.2
12.5°	825.0	826.1	825.0	831.6	831.6
15°	814.0	815.1	816.2	823.9	823.9
17.5°	799.8	802.0	804.2	812.9	814.0
20°	786.6	787.7	792.1	802.0	803.1
22.5°	769.1	772.4	777.9	787.7	791.0
25°	749.4	753.8	760.3	773.5	775.7
27.5°	730.8	734.0	742.8	757.1	761.4
30°	707.8	713.2	724.2	738.4	743.9
32.5°	685.8	691.3	704.5	719.8	724.2
35°	658.5	666.1	681.5	699.0	704.5
37.5°	632.2	639.8	658.5	678.2	684.7
40°	604.8	613.5	633.3	656.3	665.0
42.5°	575.2	587.2	609.2	634.4	644.2
45°	545.6	556.6	584.0	612.4	623.4
47.5°	513.8	527.0	556.6	590.5	603.7
50°	479.9	496.3	530.3	567.5	581.8
52.5°	445.9	464.5	502.9	544.5	559.9
55°	413.0	430.6	476.6	521.5	537.9
57.5°	376.9	398.8	449.2	497.4	513.8
60°	339.6	363.7	421.8	472.2	489.7
62.5°	302.4	329.8	395.5	445.9	464.5
65°	265.1	295.8	364.8	418.5	437.1
67.5°	229.0	262.9	336.3	390.0	408.7
70°	187.3	230.1	305.7	358.3	376.9
72.5°	149.0	198.3	276.1	325.4	341.8
75°	115.0	167.6	243.2	288.1	294.7
77.5°	84.4	136.9	209.3	224.6	225.7
80°	57.0	109.6	160.0	157.8	160.0
82.5°	37.3	82.2	100.8	112.8	113.9
85°	21.9	48.2	59.2	65.7	66.8
87.5°	11.0	16.4	20.8	21.9	24.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)