

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: P309050

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-S-CA08-W2A-U-2700K**

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: P309050
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-39HE-UNV-L82765-S-CA08-W2A-U-2700K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3433.0 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

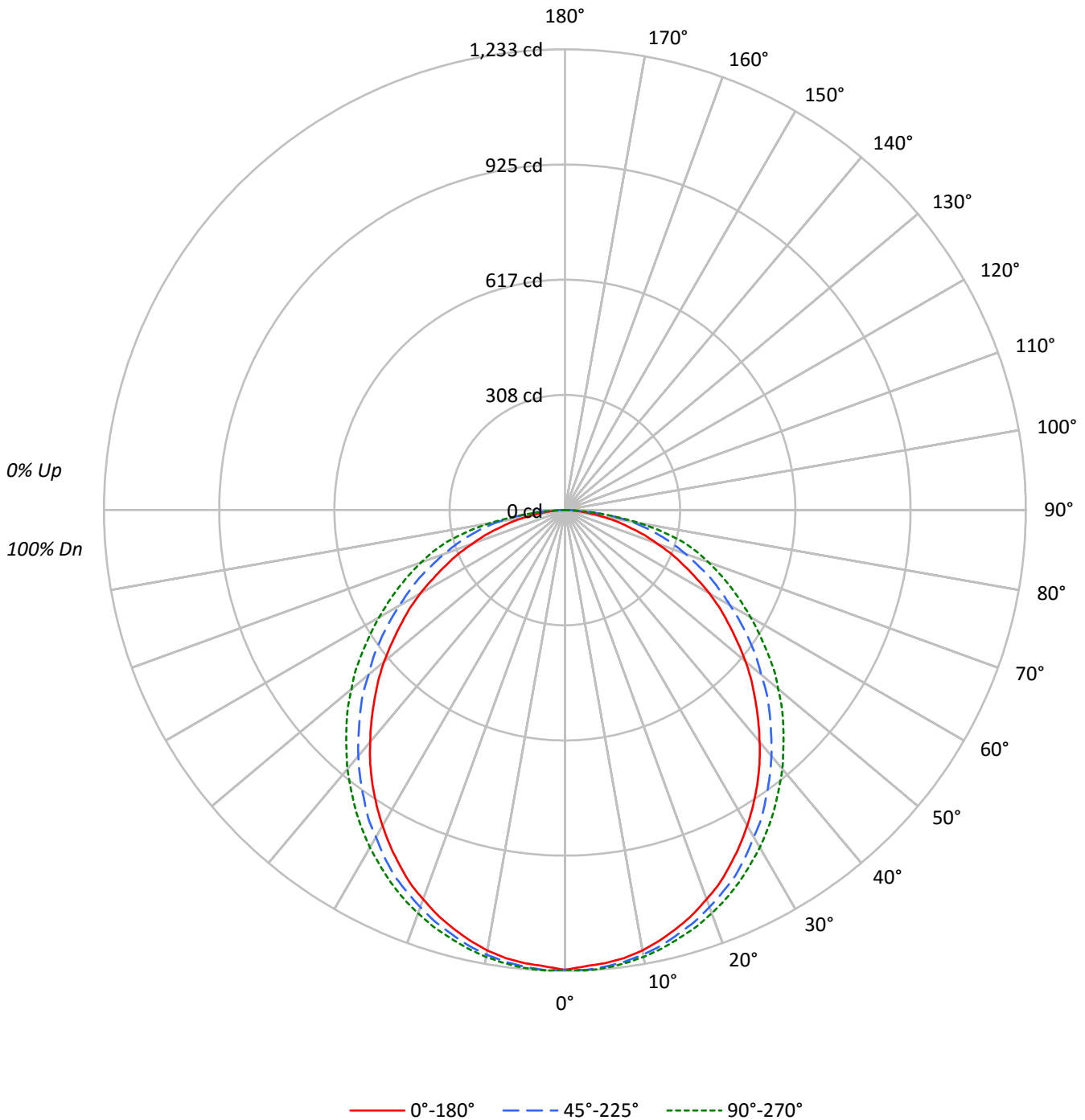
Input Watts (W): 32.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3310	3310	3310
5°	3288	3314	3323
10°	3269	3300	3318
15°	3226	3271	3302
20°	3174	3238	3289
25°	3110	3206	3267
30°	3031	3141	3240
35°	2947	3083	3210
40°	2847	3021	3179
45°	2743	2950	3145
50°	2642	2870	3118
55°	2518	2818	3096
60°	2405	2750	3086
65°	2244	2734	3121
70°	2067	2710	3213
75°	1865	2748	3381
80°	1613	2830	3177
85°	1334	2374	2374



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	3.4
10°-20°	331.1	9.6
20°-30°	495.4	14.4
30°-40°	586.6	17.1
40°-50°	597.8	17.4
50°-60°	535.8	15.6
60°-70°	419.5	12.2
70°-80°	270.5	7.9
80°-90°	79.9	2.3
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°	942.7	27.5
0°-40°	1529.4	44.5
0°-60°	2663.1	77.6
0°-90°	3433.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3433.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1230	1230	1230	1230	1230	
5°	1217	1220	1227	1228	1230	116
15°	1158	1164	1174	1184	1185	326
25°	1048	1057	1080	1094	1100	482
35°	897	908	939	968	977	561
45°	721	737	775	815	826	557
55°	537	554	601	642	660	481
65°	352	373	429	471	490	350
75°	179	207	264	309	325	192
85°	43	59	77	77	77	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1230.2	1230.2	1230.2	1230.2	1230.2
2.5°	1222.1	1225.3	1231.8	1233.4	1233.4
5°	1217.3	1220.5	1226.9	1228.5	1230.2
7.5°	1209.3	1210.9	1218.9	1222.1	1223.7
10°	1196.5	1199.7	1207.7	1212.5	1214.1
12.5°	1178.9	1183.7	1193.3	1199.7	1201.3
15°	1158.1	1164.5	1174.1	1183.7	1185.3
17.5°	1135.6	1142.1	1154.9	1166.1	1169.3
20°	1108.4	1116.4	1130.8	1143.7	1148.5
22.5°	1081.2	1087.6	1105.2	1121.2	1126.0
25°	1047.6	1057.2	1079.6	1094.0	1100.4
27.5°	1012.3	1023.5	1045.9	1065.2	1071.6
30°	975.5	986.7	1010.7	1034.7	1042.7
32.5°	937.0	949.8	978.7	1002.7	1010.7
35°	897.0	908.2	938.6	967.5	977.1
37.5°	855.3	864.9	900.2	930.6	940.2
40°	810.5	823.3	860.1	895.4	905.0
42.5°	765.6	780.1	816.9	855.3	864.9
45°	720.8	736.8	775.3	815.3	826.5
47.5°	677.5	690.4	733.6	772.0	788.1
50°	631.1	643.9	685.6	728.8	744.8
52.5°	583.0	600.7	645.5	687.2	706.4
55°	536.6	554.2	600.7	642.3	659.9
57.5°	493.3	507.8	555.8	599.1	616.7
60°	446.9	459.7	511.0	557.4	573.4
62.5°	397.2	416.5	469.3	512.6	531.8
65°	352.4	373.2	429.3	470.9	490.1
67.5°	310.7	330.0	384.4	429.3	450.1
70°	262.7	288.3	344.4	389.2	408.4
72.5°	224.2	246.7	304.3	349.2	370.0
75°	179.4	206.6	264.3	309.1	325.2
77.5°	142.6	169.8	224.2	259.5	267.5
80°	104.1	131.3	182.6	200.2	205.0
82.5°	70.5	96.1	131.3	136.1	137.8
85°	43.2	59.3	76.9	76.9	76.9
87.5°	20.8	24.0	27.2	25.6	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)