

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: P312841

Luminaire Tested: **22FCZ2-39HE-UNV-L83050-CA08-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: P312841
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
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-L83050-CA08-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3547.0 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

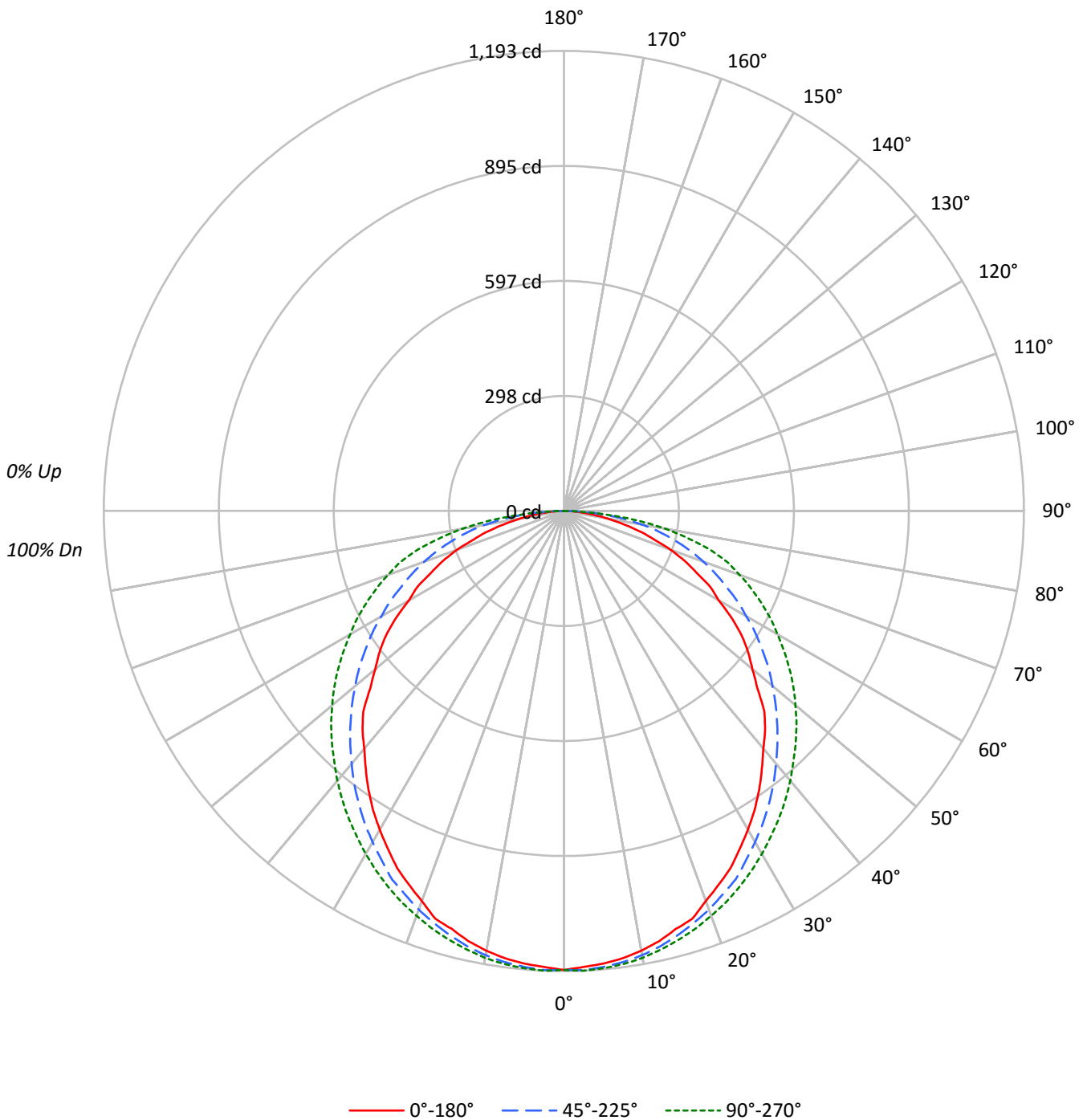
Input Watts (W): 32.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	90	92	89	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	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	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	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3202	3202	3202
5°	3183	3206	3214
10°	3164	3196	3215
15°	3126	3173	3207
20°	3082	3150	3199
25°	3034	3130	3196
30°	2965	3081	3191
35°	2900	3045	3196
40°	2827	3006	3208
45°	2798	2978	3237
50°	2672	2956	3283
55°	2644	2947	3353
60°	2495	2942	3444
65°	2422	2962	3599
70°	2324	3032	3820
75°	2118	3124	4113
80°	1815	3236	4156
85°	1467	3094	3563



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.6	3.2
10°-20°	321.2	9.1
20°-30°	483.5	13.6
30°-40°	580.3	16.4
40°-50°	606.5	17.1
50°-60°	565.2	15.9
60°-70°	463.6	13.1
70°-80°	312.4	8.8
80°-90°	101.7	2.9
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°	917.3	25.9
0°-40°	1497.6	42.2
0°-60°	2669.3	75.3
0°-90°	3547.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3547.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1190	1190	1190	1190	1190	
5°	1178	1182	1187	1188	1190	112
15°	1122	1129	1139	1149	1151	317
25°	1022	1029	1054	1070	1076	470
35°	883	895	927	959	973	552
45°	735	740	783	830	850	562
55°	564	574	628	688	715	499
65°	380	397	465	533	565	378
75°	204	226	300	368	396	214
85°	48	68	100	117	115	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1190.0	1190.0	1190.0	1190.0	1190.0
2.5°	1183.3	1186.7	1191.7	1193.4	1193.4
5°	1178.2	1181.6	1186.7	1188.4	1190.0
7.5°	1169.7	1173.1	1179.9	1183.3	1185.0
10°	1157.8	1161.2	1169.7	1174.8	1176.5
12.5°	1142.5	1145.9	1156.1	1162.9	1164.6
15°	1122.1	1128.9	1139.1	1149.3	1151.0
17.5°	1108.6	1106.9	1120.4	1132.3	1135.7
20°	1076.3	1084.8	1100.1	1113.7	1117.0
22.5°	1049.1	1055.9	1076.3	1091.6	1098.4
25°	1022.0	1028.8	1054.2	1069.5	1076.3
27.5°	988.0	998.2	1022.0	1044.1	1052.5
30°	954.1	964.3	991.4	1016.9	1027.1
32.5°	920.1	932.0	960.9	988.0	999.9
35°	882.8	894.7	926.9	959.2	972.8
37.5°	843.7	859.0	893.0	928.6	943.9
40°	804.7	820.0	855.6	896.4	913.3
42.5°	772.4	779.2	820.0	864.1	881.1
45°	735.1	740.2	782.6	830.1	850.5
47.5°	680.8	699.4	745.3	797.9	818.3
50°	638.3	658.7	706.2	762.2	784.3
52.5°	602.7	616.2	668.9	724.9	750.4
55°	563.6	573.8	628.1	687.5	714.7
57.5°	516.1	534.8	589.1	650.2	677.4
60°	463.5	487.2	546.6	612.8	640.0
62.5°	429.5	443.1	507.6	573.8	604.4
65°	380.3	397.2	465.2	533.1	565.3
67.5°	339.5	356.5	426.1	494.0	526.3
70°	295.4	312.4	385.4	453.3	485.5
72.5°	244.5	268.2	344.6	412.5	446.5
75°	203.7	225.8	300.5	368.4	395.6
77.5°	157.9	186.7	256.3	312.4	332.7
80°	117.1	146.0	208.8	249.6	268.2
82.5°	79.8	108.6	156.2	186.7	196.9
85°	47.5	67.9	100.2	117.1	115.4
87.5°	22.1	28.9	40.7	40.7	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)