

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: P309009

Luminaire Tested: **22FCZ2-34HE-UNV-L82765-S-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: P309009
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: 22FCZ2-34HE-UNV-L82765-S-CA08-W2A-U-4500K
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: 3315.0 lumens
Efficiency: N/A
Efficacy: 118.0 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

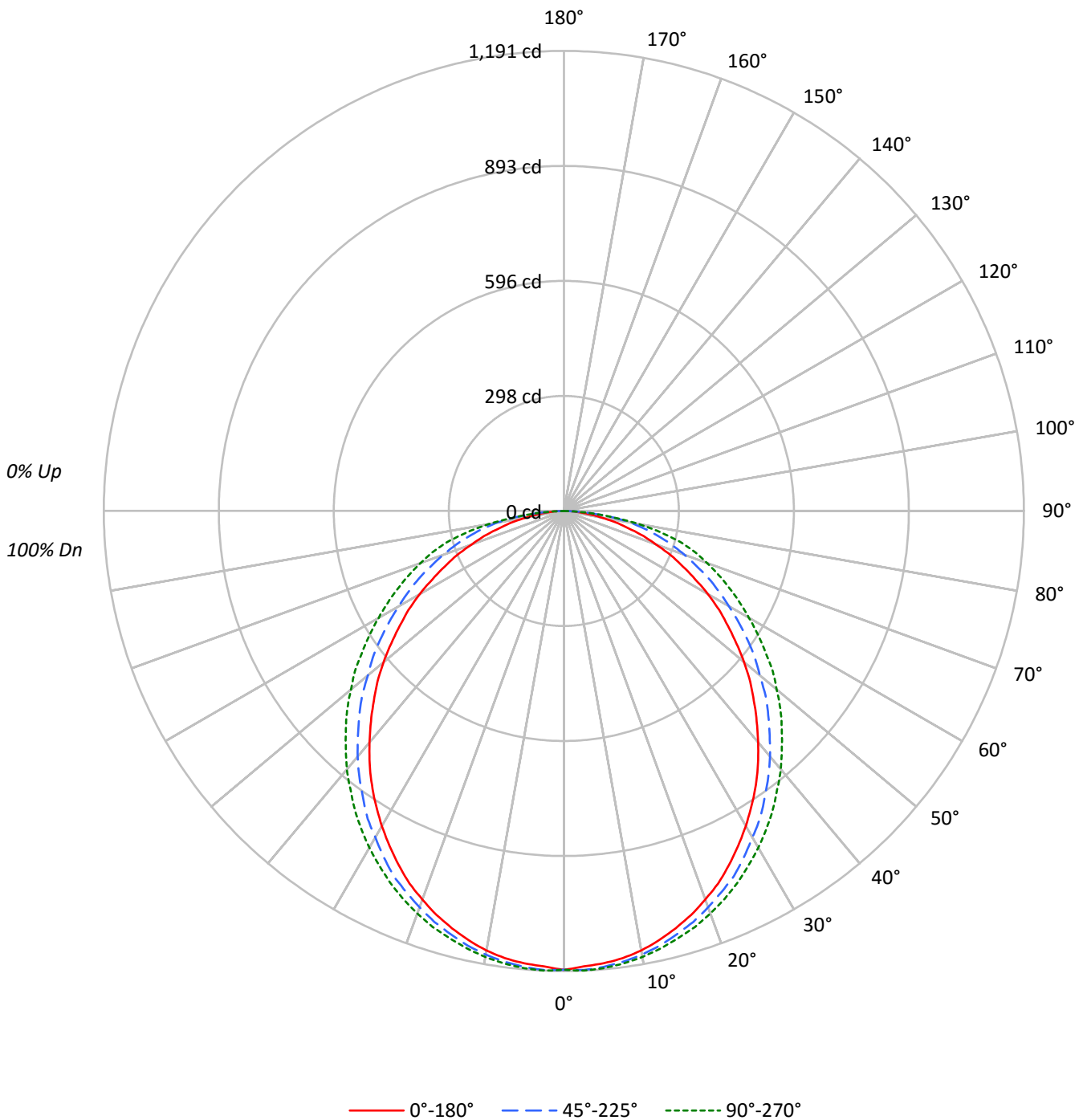
Input Watts (W): 28.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3197	3197	3197
5°	3175	3200	3209
10°	3157	3187	3204
15°	3115	3158	3189
20°	3065	3127	3176
25°	3003	3095	3155
30°	2927	3033	3129
35°	2846	2978	3099
40°	2749	2918	3070
45°	2649	2849	3037
50°	2551	2771	3011
55°	2431	2721	2989
60°	2322	2655	2980
65°	2167	2639	3014
70°	1996	2616	3103
75°	1801	2653	3265
80°	1557	2732	3068
85°	1291	2291	2291



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.3	3.4
10°-20°	319.7	9.6
20°-30°	478.3	14.4
30°-40°	566.5	17.1
40°-50°	577.3	17.4
50°-60°	517.4	15.6
60°-70°	405.1	12.2
70°-80°	261.2	7.9
80°-90°	77.2	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°	910.3	27.5
0°-40°	1476.8	44.5
0°-60°	2571.5	77.6
0°-90°	3315.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3315.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1188	1188	1188	1188	1188	
5°	1176	1179	1185	1186	1188	112
15°	1118	1124	1134	1143	1145	315
25°	1012	1021	1042	1056	1063	466
35°	866	877	906	934	944	541
45°	696	712	749	787	798	538
55°	518	535	580	620	637	465
65°	340	360	414	455	473	338
75°	173	200	255	298	314	186
85°	42	57	74	74	74	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1187.9	1187.9	1187.9	<i>1187.9</i>	1187.9
2.5°	<i>1180.1</i>	<i>1183.2</i>	<i>1189.4</i>	<i>1191.0</i>	<i>1191.0</i>
5°	1175.5	1178.6	1184.8	<i>1186.3</i>	1187.9
7.5°	1167.8	1169.3	1177.0	<i>1180.1</i>	1181.7
10°	1155.4	1158.5	1166.2	<i>1170.9</i>	1172.4
12.5°	1138.4	1143.0	1152.3	<i>1158.5</i>	1160.0
15°	1118.3	1124.5	1133.7	<i>1143.0</i>	1144.6
17.5°	1096.6	1102.8	1115.2	<i>1126.0</i>	1129.1
20°	1070.3	1078.1	1092.0	<i>1104.3</i>	1109.0
22.5°	1044.0	1050.2	1067.2	<i>1082.7</i>	1087.3
25°	1011.5	1020.8	1042.5	<i>1056.4</i>	1062.6
27.5°	977.5	988.3	1010.0	<i>1028.6</i>	1034.7
30°	941.9	952.8	976.0	<i>999.2</i>	1006.9
32.5°	904.8	917.2	945.0	<i>968.2</i>	976.0
35°	866.2	877.0	906.4	<i>934.2</i>	943.5
37.5°	825.9	835.2	869.2	<i>898.6</i>	907.9
40°	782.6	795.0	830.6	<i>864.6</i>	873.9
42.5°	739.3	753.2	788.8	<i>825.9</i>	835.2
45°	696.0	711.5	748.6	<i>787.3</i>	798.1
47.5°	654.3	666.6	708.4	<i>745.5</i>	761.0
50°	609.4	621.8	662.0	<i>703.7</i>	719.2
52.5°	563.0	580.0	623.3	<i>663.5</i>	682.1
55°	518.1	535.2	580.0	<i>620.2</i>	637.2
57.5°	476.4	490.3	536.7	<i>578.5</i>	595.5
60°	431.5	443.9	493.4	<i>538.3</i>	553.7
62.5°	383.6	402.1	453.2	<i>494.9</i>	513.5
65°	340.3	360.4	414.5	<i>454.7</i>	473.3
67.5°	300.1	318.6	371.2	<i>414.5</i>	434.6
70°	253.7	278.4	332.5	<i>375.8</i>	394.4
72.5°	216.5	238.2	293.9	<i>337.2</i>	357.3
75°	173.2	199.5	255.2	<i>298.5</i>	314.0
77.5°	137.7	164.0	216.5	<i>250.6</i>	258.3
80°	100.5	126.8	176.3	<i>193.3</i>	198.0
82.5°	68.1	92.8	126.8	<i>131.5</i>	133.0
85°	41.8	57.2	74.2	<i>74.2</i>	74.2
87.5°	20.1	23.2	26.3	<i>24.7</i>	24.7
90°	0.0	0.0	0.0	<i>0.0</i>	0.0

(END OF REPORT)