

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: P309310

Luminaire Tested: **24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-6500K**

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: P309310
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: 24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 6500K 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: 2413.0 lumens
Efficiency: N/A
Efficacy: 82.6 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

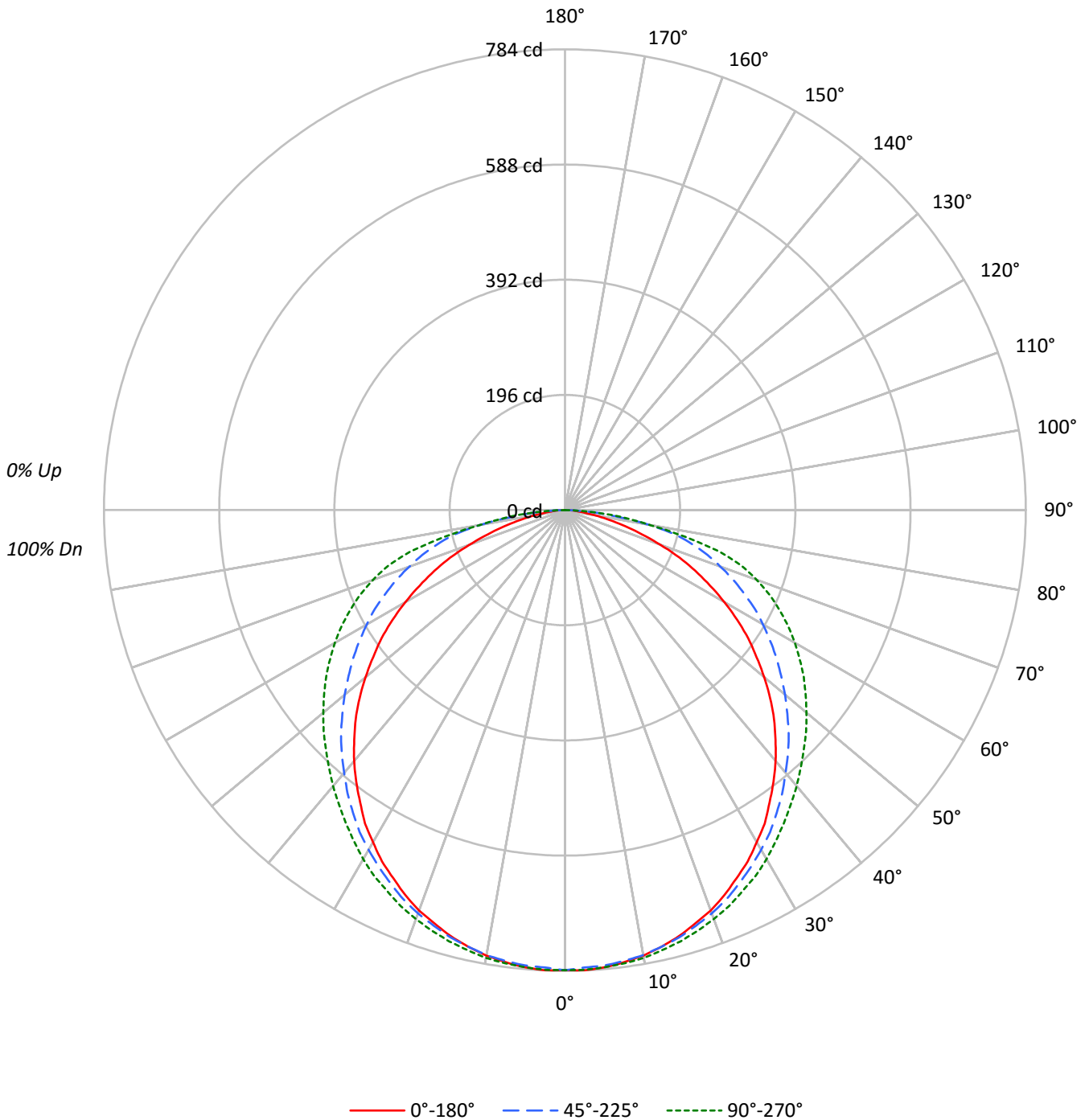
Input Watts (W): 29.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1053	1053	1053
5°	1055	1051	1055
10°	1052	1050	1057
15°	1046	1048	1058
20°	1039	1046	1060
25°	1026	1041	1062
30°	1014	1037	1066
35°	997	1032	1067
40°	979	1026	1077
45°	957	1024	1094
50°	926	1023	1123
55°	893	1031	1164
60°	843	1047	1215
65°	778	1071	1283
70°	679	1109	1367
75°	552	1166	1412
80°	407	1143	1143
85°	312	843	951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.2	3.1
10°-20°	213.0	8.8
20°-30°	324.2	13.4
30°-40°	393.7	16.3
40°-50°	415.9	17.2
50°-60°	392.5	16.3
60°-70°	326.3	13.5
70°-80°	214.7	8.9
80°-90°	58.5	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°	611.4	25.3
0°-40°	1005.1	41.7
0°-60°	1813.5	75.2
0°-90°	2413.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2413.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	783	783	783	783	783	
5°	781	781	778	781	781	74
15°	751	752	753	760	760	212
25°	691	695	701	713	715	319
35°	607	614	628	644	650	380
45°	503	513	538	565	575	387
55°	381	397	439	481	496	339
65°	244	273	336	386	403	242
75°	106	155	224	266	272	114
85°	20	44	55	61	62	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	782.9	782.9	782.9	782.9	782.9
2.5°	783.9	782.9	778.9	782.9	782.9
5°	780.9	780.9	777.8	780.9	780.9
7.5°	775.8	775.8	773.8	777.8	777.8
10°	769.8	769.8	768.8	773.8	773.8
12.5°	760.7	761.7	760.7	766.7	766.7
15°	750.6	751.6	752.6	759.7	759.7
17.5°	737.4	739.5	741.5	749.6	750.6
20°	725.3	726.3	730.4	739.5	740.5
22.5°	709.2	712.2	717.2	726.3	729.4
25°	691.0	695.0	701.1	713.2	715.2
27.5°	673.8	676.8	684.9	698.0	702.1
30°	652.6	657.6	667.7	680.9	685.9
32.5°	632.4	637.4	649.6	663.7	667.7
35°	607.1	614.2	628.3	644.5	649.6
37.5°	582.9	590.0	607.1	625.3	631.4
40°	557.6	565.7	583.9	605.1	613.2
42.5°	530.4	541.5	561.7	584.9	594.0
45°	503.1	513.2	538.4	564.7	574.8
47.5°	473.8	485.9	513.2	544.5	556.6
50°	442.5	457.6	488.9	523.3	536.4
52.5°	411.1	428.3	463.7	502.1	516.2
55°	380.8	397.0	439.4	480.9	496.0
57.5°	347.5	367.7	414.2	458.6	473.8
60°	313.2	335.4	388.9	435.4	451.6
62.5°	278.8	304.1	364.7	411.1	428.3
65°	244.5	272.8	336.4	385.9	403.1
67.5°	211.1	242.4	310.1	359.6	376.8
70°	172.7	212.1	281.8	330.3	347.5
72.5°	137.4	182.8	254.6	300.0	315.2
75°	106.1	154.6	224.3	265.7	271.7
77.5°	77.8	126.3	192.9	207.1	208.1
80°	52.5	101.0	147.5	145.5	147.5
82.5°	34.3	75.8	92.9	104.0	105.1
85°	20.2	44.4	54.6	60.6	61.6
87.5°	10.1	15.2	19.2	20.2	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)