

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: P310386

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-RDP-CP187-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: P310386
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-65HE-UNV-L82765-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 3821.0 lumens
Efficiency: N/A
Efficacy: 71.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

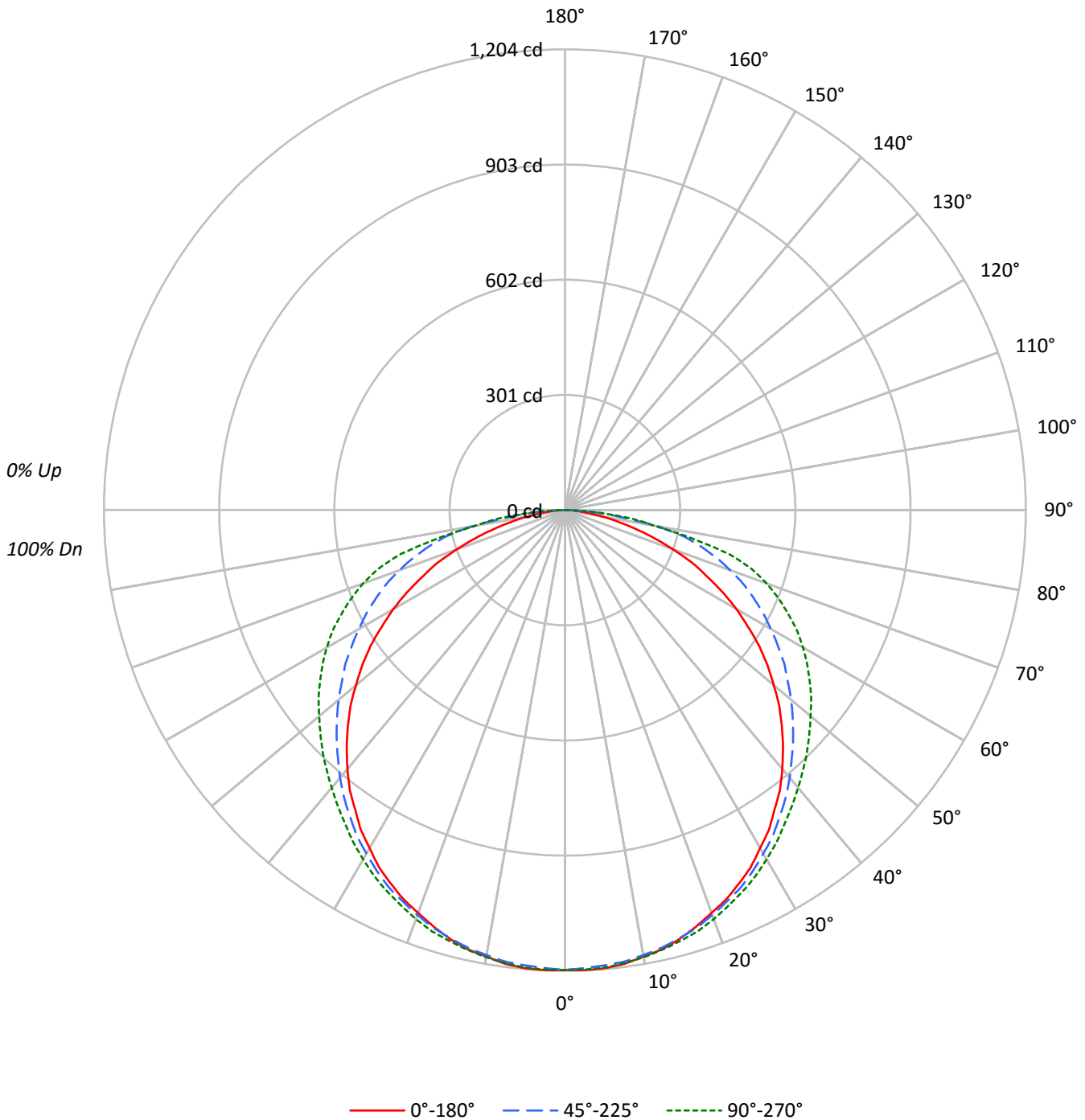
Input Watts (W): 53.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1617	1617	1617
5°	1623	1613	1620
10°	1618	1613	1621
15°	1616	1613	1624
20°	1604	1612	1628
25°	1598	1615	1632
30°	1584	1611	1637
35°	1569	1606	1644
40°	1551	1604	1664
45°	1525	1605	1702
50°	1492	1615	1753
55°	1454	1641	1832
60°	1392	1673	1933
65°	1303	1732	2052
70°	1185	1812	2207
75°	1005	1912	2306
80°	793	1924	1865
85°	585	1463	1638



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.0	3.0
10°-20°	328.0	8.6
20°-30°	501.6	13.1
30°-40°	613.3	16.0
40°-50°	653.6	17.1
50°-60°	624.9	16.4
60°-70°	529.4	13.9
70°-80°	355.8	9.3
80°-90°	100.4	2.6
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°	943.7	24.7
0°-40°	1556.9	40.7
0°-60°	2835.5	74.2
0°-90°	3821.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3821.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1202	1202	1202	1202	1202	
5°	1202	1200	1194	1200	1200	114
15°	1160	1160	1158	1168	1166	327
25°	1076	1080	1088	1097	1099	496
35°	955	963	978	997	1001	598
45°	802	815	843	879	895	618
55°	620	642	699	754	781	552
65°	409	451	544	616	644	406
75°	193	263	368	430	444	207
85°	38	78	95	102	106	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1201.6	1201.6	1201.6	1201.6	1201.6
2.5°	1203.5	1203.5	1197.8	1201.6	1201.6
5°	1201.6	1199.7	1194.0	1199.7	1199.7
7.5°	1195.9	1194.0	1190.2	1195.9	1194.0
10°	1184.5	1184.5	1180.7	1186.4	1186.4
12.5°	1175.1	1173.2	1171.3	1178.9	1177.0
15°	1159.9	1159.9	1158.0	1167.5	1165.6
17.5°	1140.9	1142.8	1144.7	1152.3	1154.2
20°	1120.1	1123.9	1125.8	1137.2	1137.2
22.5°	1101.1	1103.0	1106.8	1118.2	1118.2
25°	1076.5	1080.3	1087.9	1097.4	1099.3
27.5°	1051.9	1053.8	1063.2	1076.5	1078.4
30°	1019.7	1025.3	1036.7	1051.9	1053.8
32.5°	991.2	996.9	1010.2	1025.3	1029.1
35°	955.2	962.8	978.0	996.9	1000.7
37.5°	923.0	928.7	947.6	968.5	974.2
40°	883.2	894.6	913.5	938.2	947.6
42.5°	843.4	854.8	877.5	909.7	921.1
45°	801.7	815.0	843.4	879.4	894.6
47.5°	760.0	775.2	807.4	849.1	866.1
50°	712.6	731.6	771.4	818.8	837.7
52.5°	667.1	689.9	733.5	786.5	811.2
55°	619.8	642.5	699.4	754.3	780.8
57.5°	566.7	597.0	659.6	722.1	750.5
60°	517.4	545.8	621.6	689.9	718.3
62.5°	464.3	502.2	583.7	655.8	684.2
65°	409.4	451.1	543.9	616.0	644.4
67.5°	360.1	405.6	504.1	576.2	604.6
70°	301.3	358.2	460.5	532.6	561.0
72.5°	246.4	308.9	415.1	485.2	511.7
75°	193.3	263.4	367.7	430.2	443.5
77.5°	144.0	218.0	318.4	344.9	335.5
80°	102.3	174.4	248.3	235.0	240.7
82.5°	66.3	132.7	153.5	174.4	180.0
85°	37.9	77.7	94.8	102.3	106.1
87.5°	17.1	28.4	37.9	37.9	36.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)