

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: P313356

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-HRP-CP187-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: P313356
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: 24FCZ2-65HE-UNV-L83050-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 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: 4344.0 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

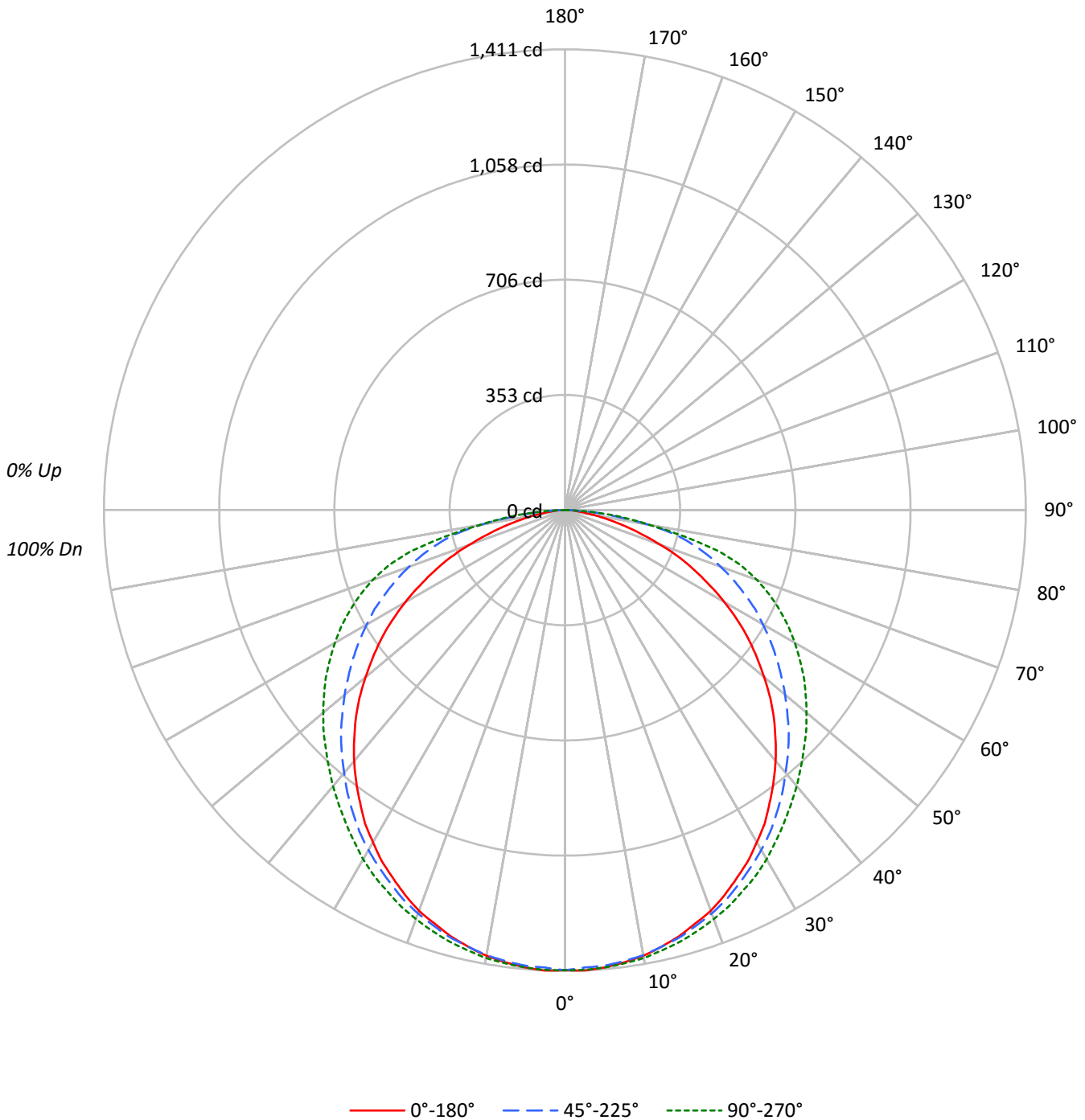
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1896	1896	1896
5°	1899	1891	1899
10°	1893	1891	1903
15°	1882	1887	1905
20°	1870	1883	1909
25°	1847	1874	1912
30°	1825	1868	1918
35°	1795	1858	1921
40°	1763	1846	1939
45°	1723	1844	1969
50°	1667	1842	2021
55°	1608	1856	2095
60°	1517	1884	2187
65°	1401	1928	2310
70°	1223	1996	2461
75°	993	2099	2543
80°	733	2057	2057
85°	562	1516	1712



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.5	3.1
10°-20°	383.4	8.8
20°-30°	583.7	13.4
30°-40°	708.7	16.3
40°-50°	748.8	17.2
50°-60°	706.5	16.3
60°-70°	587.5	13.5
70°-80°	386.5	8.9
80°-90°	105.4	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°	1100.6	25.3
0°-40°	1809.4	41.7
0°-60°	3264.7	75.2
0°-90°	4344.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4344.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1409	1409	1409	1409	1409	
5°	1406	1406	1400	1406	1406	134
15°	1351	1353	1355	1368	1368	381
25°	1244	1251	1262	1284	1288	574
35°	1093	1106	1131	1160	1169	684
45°	906	924	969	1017	1035	697
55°	686	715	791	866	893	611
65°	440	491	606	695	726	435
75°	191	278	404	478	489	206
85°	36	80	98	109	111	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1409.4	1409.4	1409.4	1409.4	1409.4
2.5°	1411.2	1409.4	1402.1	1409.4	1409.4
5°	1405.8	1405.8	1400.3	1405.8	1405.8
7.5°	1396.7	1396.7	1393.0	1400.3	1400.3
10°	1385.8	1385.8	1384.0	1393.0	1393.0
12.5°	1369.4	1371.2	1369.4	1380.3	1380.3
15°	1351.2	1353.0	1354.9	1367.6	1367.6
17.5°	1327.6	1331.2	1334.9	1349.4	1351.2
20°	1305.8	1307.6	1314.8	1331.2	1333.0
22.5°	1276.7	1282.1	1291.2	1307.6	1313.0
25°	1243.9	1251.2	1262.1	1283.9	1287.6
27.5°	1213.0	1218.5	1233.0	1256.7	1263.9
30°	1174.8	1183.9	1202.1	1225.7	1234.8
32.5°	1138.4	1147.5	1169.4	1194.8	1202.1
35°	1093.0	1105.7	1131.2	1160.3	1169.4
37.5°	1049.3	1062.1	1093.0	1125.7	1136.6
40°	1003.9	1018.4	1051.2	1089.3	1103.9
42.5°	954.8	974.8	1011.1	1053.0	1069.3
45°	905.7	923.8	969.3	1016.6	1034.8
47.5°	852.9	874.7	923.8	980.2	1002.0
50°	796.5	823.8	880.2	942.0	965.7
52.5°	740.2	771.1	834.7	903.8	929.3
55°	685.6	714.7	791.1	865.7	892.9
57.5°	625.6	662.0	745.6	825.6	852.9
60°	563.8	603.8	700.2	783.8	812.9
62.5°	501.9	547.4	656.5	740.2	771.1
65°	440.1	491.0	605.6	694.7	725.6
67.5°	380.1	436.5	558.3	647.4	678.3
70°	311.0	381.9	507.4	594.7	625.6
72.5°	247.3	329.2	458.3	540.1	567.4
75°	191.0	278.2	403.7	478.3	489.2
77.5°	140.0	227.3	347.4	372.8	374.6
80°	94.6	181.9	265.5	261.9	265.5
82.5°	61.8	136.4	167.3	187.3	189.1
85°	36.4	80.0	98.2	109.1	110.9
87.5°	18.2	27.3	34.6	36.4	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)