

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: 17897

Luminaire Tested: **MB-SH-1T5**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: 17897
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: MB-SH-1T5
Description: DIRECT/INDIRECT SUSPENDED LUMINAIRE - MINIGATOR WHITE INTERIOR WITH
SPECULAR REFLECTORS AND 38 CELL HI PERFORMANCE LOUVER BLADE
Light Source: ONE PHILIPS 54 WATT T5 LAMP

F54T5.841HO. LUMEN RATING = 4500 LMS.

Ballast/Driver: -

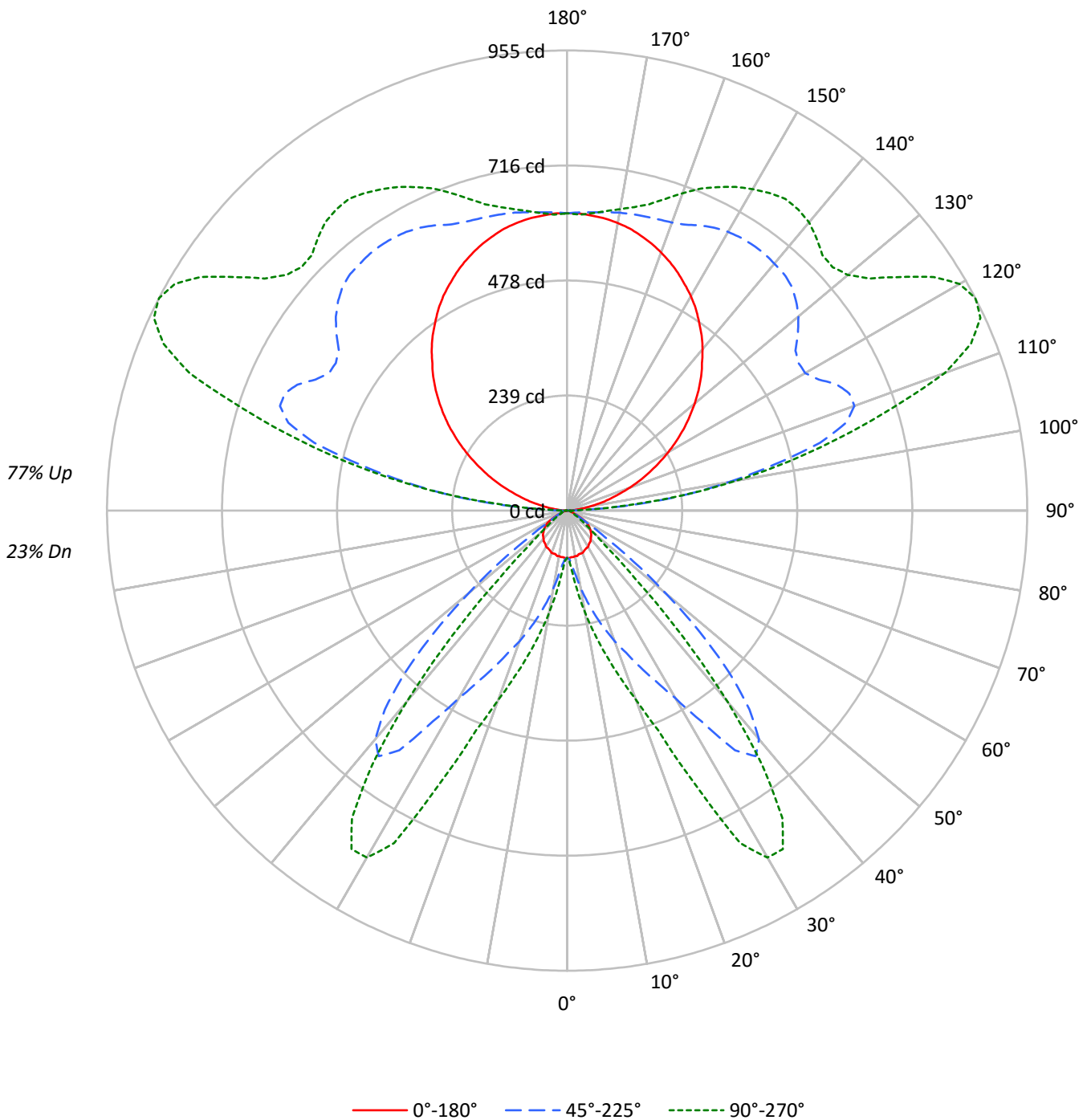
Summary

Lumens per Lamp: 4500 (1 lamp)
Luminaire Lumens: 4058.9 lumens
Efficiency: 90.2%
Efficacy: 65.5 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 2.1 / 1.94
Luminous Opening: Rectangular (W 0.22' x L: 3.59' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 62
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	91	91	91	91	81	81	81	81	62	62	62	44	44	44	28	28	28	21
1	83	80	76	74	74	71	68	66	54	53	51	39	38	38	26	25	25	18
2	76	70	65	61	67	62	58	55	48	45	43	35	33	32	23	22	21	16
3	69	62	56	51	62	55	50	46	43	39	36	31	29	27	21	19	18	14
4	64	55	48	43	56	49	43	39	38	34	31	28	25	23	18	17	16	12
5	58	48	42	37	52	43	38	33	34	30	27	25	22	20	17	15	14	11
6	53	43	36	32	47	39	33	29	30	26	23	22	20	18	15	13	12	9
7	49	39	32	27	44	35	29	25	27	23	20	20	17	15	14	12	11	8
8	45	35	28	24	40	31	26	22	25	21	18	18	16	14	12	11	9	7
9	42	32	25	21	37	29	23	19	22	18	16	17	14	12	11	10	8	6
10	39	29	23	19	35	26	21	17	20	16	14	15	13	11	10	9	7	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1340	1340	1340
5°	1327	1540	1796
10°	1330	2256	2984
15°	1319	3162	4363
20°	1356	4178	6058
25°	1334	5382	9370
30°	1369	7074	13085
35°	1353	10106	12951
40°	1356	11014	9217
45°	1368	9182	3861
50°	1340	5693	1467
55°	1295	2272	891
60°	1118	1011	572
65°	722	661	484
70°	474	558	478
75°	353	490	469
80°	392	596	494
85°	297	907	907



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	12.4	0.3	0.3
10°-20°	62.3	1.5	1.4
20°-30°	172.8	4.3	3.8
30°-40°	308.6	7.6	6.9
40°-50°	234.1	5.8	5.2
50°-60°	99.4	2.4	2.2
60°-70°	27.8	0.7	0.6
70°-80°	9.9	0.2	0.2
80°-90°	4.9	0.1	0.1
90°-100°	137.5	3.4	3.1
100°-110°	453.7	11.2	10.1
110°-120°	583.5	14.4	13.0
120°-130°	528.8	13.0	11.8
130°-140°	476.0	11.7	10.6
140°-150°	408.3	10.1	9.1
150°-160°	300.5	7.4	6.7
160°-170°	179.0	4.4	4.0
170°-180°	59.4	1.5	1.3
0°-30°	247.5	6.1	5.5
0°-40°	556.1	13.7	12.4
0°-60°	889.6	21.9	19.8
0°-90°	932.2	23.0	20.7
90°-120°	1174.6	28.9	26.1
90°-150°	2587.8	63.8	57.5
90°-180°	3127.0	77.0	69.5
0°-180°	4058.9	100.0	90.2

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	98	98	98	98	98	
5°	97	104	113	125	131	9
15°	94	140	224	286	309	27
25°	89	197	358	520	623	41
35°	81	254	607	764	778	51
45°	71	315	476	278	200	54
55°	54	242	96	41	38	48
65°	22	44	20	15	15	24
75°	7	10	9	9	9	8
85°	2	3	6	6	6	2
90°	0	0	0	0	0	1
95°	18	113	136	138	124	20
105°	89	287	544	605	587	95
115°	189	353	618	853	946	187
125°	295	435	578	765	845	263
135°	393	499	659	732	749	303
145°	477	544	673	763	790	299
155°	544	582	653	723	741	251
165°	591	610	632	653	658	167
175°	614	620	621	624	620	58
180°	617	617	617	617	617	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	98.3	98.3	98.3	98.3	98.3
2.5°	98.7	99.1	100.9	104.4	104.3
5°	97.0	103.5	112.6	124.8	131.3
7.5°	97.1	108.8	135.2	161.3	170.8
10°	96.1	117.0	163.0	201.2	215.6
12.5°	96.6	126.6	193.8	238.5	260.2
15°	93.5	140.0	224.1	286.3	309.2
17.5°	93.5	152.2	256.3	332.6	360.0
20°	93.5	167.8	288.1	381.7	417.7
22.5°	90.9	182.5	319.2	439.9	493.3
25°	88.7	196.8	357.9	519.8	623.1
27.5°	87.4	212.0	399.6	669.0	778.0
30°	87.0	225.0	449.5	764.2	831.5
32.5°	83.6	240.7	518.5	786.7	833.1
35°	81.3	254.5	607.4	764.2	778.4
37.5°	80.0	271.8	642.5	685.1	664.6
40°	76.2	288.4	619.1	568.8	518.1
42.5°	73.5	304.0	560.1	430.9	356.2
45°	71.0	315.3	476.4	277.5	200.3
47.5°	66.6	317.0	373.4	153.8	105.7
50°	63.2	311.4	268.5	83.1	69.2
52.5°	58.9	290.2	173.4	57.1	49.7
55°	54.5	241.9	95.6	41.0	37.5
57.5°	48.8	192.1	56.2	31.4	28.8
60°	41.0	126.9	37.1	24.1	21.0
62.5°	30.6	81.3	25.7	19.3	17.1
65°	22.4	43.6	20.5	15.3	15.0
67.5°	16.3	24.6	16.3	13.2	12.3
70°	11.9	16.3	14.0	11.5	12.0
72.5°	8.0	11.9	11.0	10.2	10.6
75°	6.7	10.2	9.3	8.9	8.9
77.5°	5.8	8.4	7.6	8.0	8.9
80°	5.0	6.2	7.6	7.5	6.3
82.5°	3.2	4.5	6.7	7.1	6.7
85°	1.9	3.2	5.8	5.8	5.8
87.5°	1.9	1.9	2.9	5.8	6.8
90°	0.5	0.5	0.5	0.5	0.5
92.5°	6.3	40.5	39.2	57.5	32.4
95°	17.6	112.6	135.7	138.2	124.3
97.5°	31.1	189.8	242.0	250.6	240.7
100°	47.1	242.0	342.7	391.3	355.3
102.5°	67.1	255.0	439.9	448.5	471.1
105°	89.1	286.7	543.7	604.8	587.0
107.5°	111.8	297.9	607.1	686.4	707.3
110°	136.9	310.9	634.3	774.1	833.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	163.0	327.9	634.3	836.2	907.3
115°	189.0	352.7	618.3	853.0	946.4
117.5°	214.7	380.4	588.8	835.3	955.1
120°	242.3	403.4	570.6	818.8	940.4
122.5°	268.1	428.6	569.6	777.2	902.2
125°	294.9	434.7	578.4	765.0	844.9
127.5°	320.5	453.8	603.6	731.1	791.1
130°	345.3	468.9	626.5	722.1	760.6
132.5°	369.6	484.5	644.4	718.1	747.7
135°	393.4	499.3	658.6	732.4	749.4
137.5°	414.3	511.1	666.1	746.8	766.3
140°	437.3	520.2	669.1	756.8	781.1
142.5°	458.6	530.2	672.1	762.4	787.5
145°	477.2	543.7	672.6	762.8	789.8
147.5°	496.7	547.9	671.3	759.3	781.5
150°	514.0	562.3	667.8	746.8	770.2
152.5°	528.9	572.7	661.7	735.9	757.2
155°	544.1	582.2	653.0	722.8	740.6
157.5°	557.9	591.3	642.1	706.0	723.3
160°	570.1	597.5	636.1	684.3	700.8
162.5°	581.3	604.8	633.4	667.4	678.1
165°	590.9	610.1	631.7	652.9	658.1
167.5°	599.6	614.4	629.9	643.0	645.2
170°	606.1	615.7	627.8	640.0	635.1
172.5°	611.0	619.1	624.4	629.9	627.0
175°	614.0	620.1	621.4	623.9	619.6
177.5°	617.0	620.9	619.6	618.8	614.8
180°	617.1	617.1	617.1	617.1	617.1

(END OF REPORT)