

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: 15993

Luminaire Tested: **201IP-S-P-1-T5**

Issue Date: 3/3/2020

**Test Information**

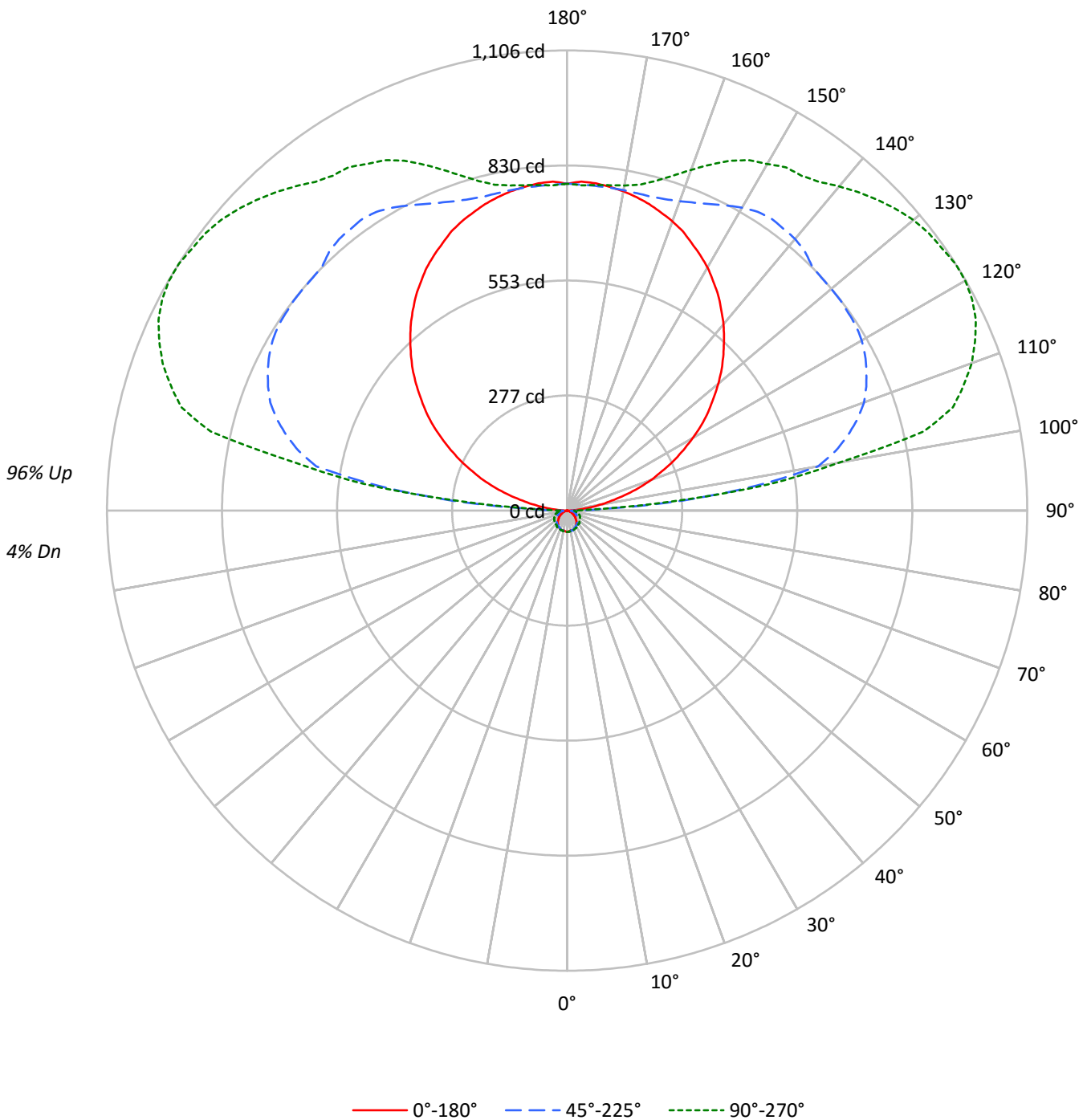
Test Method: LM-41-14  
Report Number: 15993  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: 201IP-S-P-1-T5  
Description: NEORAY DIRECT/INDIRECT SUSPENDED LUMINAIRE SHELL II PERF  
WITH WHITE INTERIOR, DIFFUSE REFLECTOR AND WHITE LENS OVER PERFORATIONS  
Light Source: ONE SYLVANIA 54 WATT T5 LAMP  
  
FP54/841/HO. LUMEN RATING = 4500 LMS.  
  
Ballast/Driver: ONE SYLVANIA QT1X54/120PHO BALLAST OPERATING AT 120 VAC AND 61 WATTS

**Summary**

Lumens per Lamp: 4500 (1 lamp)  
Luminaire Lumens: 4355.2 lumens  
Efficiency: 96.8%  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.34 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.88' x L: 4' x H: 0.22')  
CIE Type: Indirect  
  
Input Watts (W): 61  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	93	93	93	93	80	80	80	80	56	56	56	34	34	34	13	13	13	4
1	85	81	77	74	73	69	67	64	49	47	45	29	28	28	12	11	11	3
2	77	70	65	60	66	61	56	52	42	40	37	26	24	23	10	10	9	2
3	70	62	55	50	60	53	48	43	37	34	31	23	21	19	9	8	8	2
4	64	54	47	42	55	47	41	37	33	29	26	20	18	16	8	7	7	2
5	58	48	41	35	50	41	35	31	29	25	22	18	16	14	7	6	6	1
6	53	43	35	30	46	37	31	27	26	22	19	16	14	12	6	5	5	1
7	49	38	31	26	42	33	27	23	23	19	17	14	12	10	6	5	4	1
8	45	34	28	23	39	30	24	20	21	17	14	13	11	9	5	4	4	1
9	42	31	24	20	36	27	21	18	19	15	13	12	10	8	5	4	3	1
10	39	28	22	18	34	25	19	15	17	14	11	11	9	7	4	3	3	1

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	157	157	157
5°	152	152	156
10°	149	148	151
15°	153	150	148
20°	153	142	146
25°	148	137	142
30°	145	133	144
35°	139	135	140
40°	133	130	140
45°	121	123	147
50°	114	119	145
55°	97	121	150
60°	84	114	151
65°	69	125	163
70°	57	120	167
75°	44	129	169
80°	38	123	168
85°	11	123	206



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	4.8	0.1	0.1
10°-20°	13.8	0.3	0.3
20°-30°	21.0	0.5	0.5
30°-40°	25.7	0.6	0.6
40°-50°	27.2	0.6	0.6
50°-60°	26.1	0.6	0.6
60°-70°	23.3	0.5	0.5
70°-80°	18.7	0.4	0.4
80°-90°	12.1	0.3	0.3
90°-100°	249.2	5.7	5.5
100°-110°	652.6	15.0	14.5
110°-120°	732.6	16.8	16.3
120°-130°	718.7	16.5	16.0
130°-140°	635.3	14.6	14.1
140°-150°	518.6	11.9	11.5
150°-160°	376.9	8.7	8.4
160°-170°	223.6	5.1	5.0
170°-180°	74.9	1.7	1.7
0°-30°	39.7	0.9	0.9
0°-40°	65.3	1.5	1.5
0°-60°	118.7	2.7	2.6
0°-90°	172.8	4.0	3.8
90°-120°	1634.4	37.5	36.3
90°-150°	3507.1	80.5	77.9
90°-180°	4182.0	96.0	92.9
0°-180°	4355.2	100.0	96.8

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	51	51	51	51	51	
5°	50	50	50	50	52	5
15°	49	48	50	49	50	14
25°	45	45	45	47	47	21
35°	39	38	42	43	44	24
45°	29	31	34	39	42	23
55°	20	23	30	36	38	18
65°	11	16	25	32	34	10
75°	4	10	20	26	28	5
85°	0	3	12	17	23	1
90°	0	4	12	15	17	1
95°	27	229	279	245	255	34
105°	143	387	698	891	960	153
115°	282	477	794	1008	1084	278
125°	414	592	826	1032	1099	369
135°	531	660	832	995	1056	410
145°	633	692	856	952	983	395
155°	709	728	813	898	928	327
165°	762	764	781	808	820	215
175°	789	784	783	784	785	75
180°	786	786	786	786	786	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	51.3	51.3	51.3	51.3	51.3
2.5°	50.9	50.9	51.8	51.4	51.4
5°	49.6	50.4	50.4	50.4	51.8
7.5°	50.1	50.4	50.9	50.4	50.1
10°	48.4	50.0	49.6	50.4	50.9
12.5°	48.4	48.8	48.4	50.4	49.2
15°	49.2	48.4	50.1	48.8	50.0
17.5°	47.6	47.6	48.7	48.8	48.4
20°	47.9	46.3	47.1	48.8	48.8
22.5°	46.7	45.4	45.4	47.1	47.9
25°	45.0	44.6	44.6	46.8	47.1
27.5°	44.6	43.3	43.8	45.8	46.2
30°	42.5	42.4	42.5	45.4	46.7
32.5°	40.8	39.5	41.7	44.2	45.4
35°	38.6	38.2	41.6	43.3	44.1
37.5°	36.5	37.4	40.0	42.5	43.0
40°	34.8	34.1	38.6	40.8	42.5
42.5°	32.4	33.2	36.5	40.0	42.5
45°	29.4	31.1	34.5	39.1	42.5
47.5°	27.7	29.4	33.5	37.9	40.0
50°	25.6	26.9	31.5	37.9	39.5
52.5°	23.1	25.1	29.8	36.5	38.7
55°	19.7	22.6	29.8	35.7	38.2
57.5°	18.5	21.3	28.1	34.9	37.0
60°	15.0	18.8	25.6	33.2	35.4
62.5°	12.1	17.5	25.9	32.8	35.4
65°	10.7	15.5	25.2	31.5	34.5
67.5°	8.3	14.7	23.4	29.8	33.2
70°	7.4	12.0	21.4	30.3	31.5
72.5°	6.1	11.3	21.0	27.8	29.8
75°	4.5	9.9	19.7	25.6	27.7
77.5°	2.3	8.3	18.0	23.4	25.6
80°	2.8	7.1	15.5	21.3	23.1
82.5°	0.8	5.8	13.3	19.7	21.0
85°	0.5	3.3	12.1	17.1	22.7
87.5°	0.5	1.5	9.6	14.5	18.0
90°	0.5	4.4	12.2	14.8	16.6
92.5°	9.1	80.0	72.8	55.5	44.6
95°	27.3	229.2	279.0	245.3	254.8
97.5°	52.2	287.4	461.5	477.9	495.7
100°	80.0	333.0	612.1	710.7	664.3
102.5°	109.8	348.5	660.5	785.3	877.9
105°	143.2	386.9	698.4	891.2	960.2
107.5°	179.1	413.0	731.7	928.1	999.0
110°	214.5	434.0	759.1	961.0	1034.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	246.4	456.9	778.2	987.2	1060.9
115°	281.5	477.1	793.7	1007.9	1083.8
117.5°	314.8	499.5	807.5	1022.6	1097.6
120°	348.2	538.2	817.3	1028.9	1104.8
122.5°	382.7	577.4	824.1	1031.5	1105.7
125°	414.2	592.3	826.2	1031.5	1099.3
127.5°	443.4	625.1	828.7	1026.4	1095.6
130°	474.1	639.8	828.7	1018.0	1086.3
132.5°	503.7	651.2	828.7	1008.7	1072.3
135°	531.1	660.1	831.7	995.2	1056.0
137.5°	558.0	666.9	845.5	980.5	1037.3
140°	584.6	675.7	852.3	964.0	1017.1
142.5°	608.6	681.6	854.0	956.4	995.7
145°	632.7	691.7	856.5	952.3	982.6
147.5°	653.3	696.7	851.8	947.1	978.3
150°	674.8	706.8	840.5	936.2	962.0
152.5°	692.5	716.9	827.0	921.0	949.3
155°	708.9	727.5	812.7	898.2	927.8
157.5°	726.3	737.6	800.8	873.8	899.9
160°	739.8	748.2	791.2	848.5	871.3
162.5°	751.1	757.0	784.5	826.6	843.5
165°	762.5	764.2	780.6	807.6	819.8
167.5°	771.4	772.5	781.0	794.5	802.2
170°	779.3	775.5	782.0	791.5	793.4
172.5°	784.8	781.0	782.8	786.1	788.6
175°	789.4	784.4	783.2	783.6	785.3
177.5°	791.5	786.1	784.0	783.2	782.3
180°	785.7	785.7	785.7	785.7	785.7

(END OF REPORT)