

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: NEO-RAY

Report Number: P231567

Luminaire Tested: **S124-DR-LO-27-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231567
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29681)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124-DR-LO-27-X-0048-1-U-DD-3-W
Description: DEFINE 4 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1196.6 lumens
Efficiency: N/A
Efficacy: 88.0 lumens/watt
Spacing Criteria (0/90/45): 1.39 / 1.24 / 1.51
Luminous Opening: Rectangular (W 3.92' x L: 0.31' x H: 0')
CIE Type: Direct

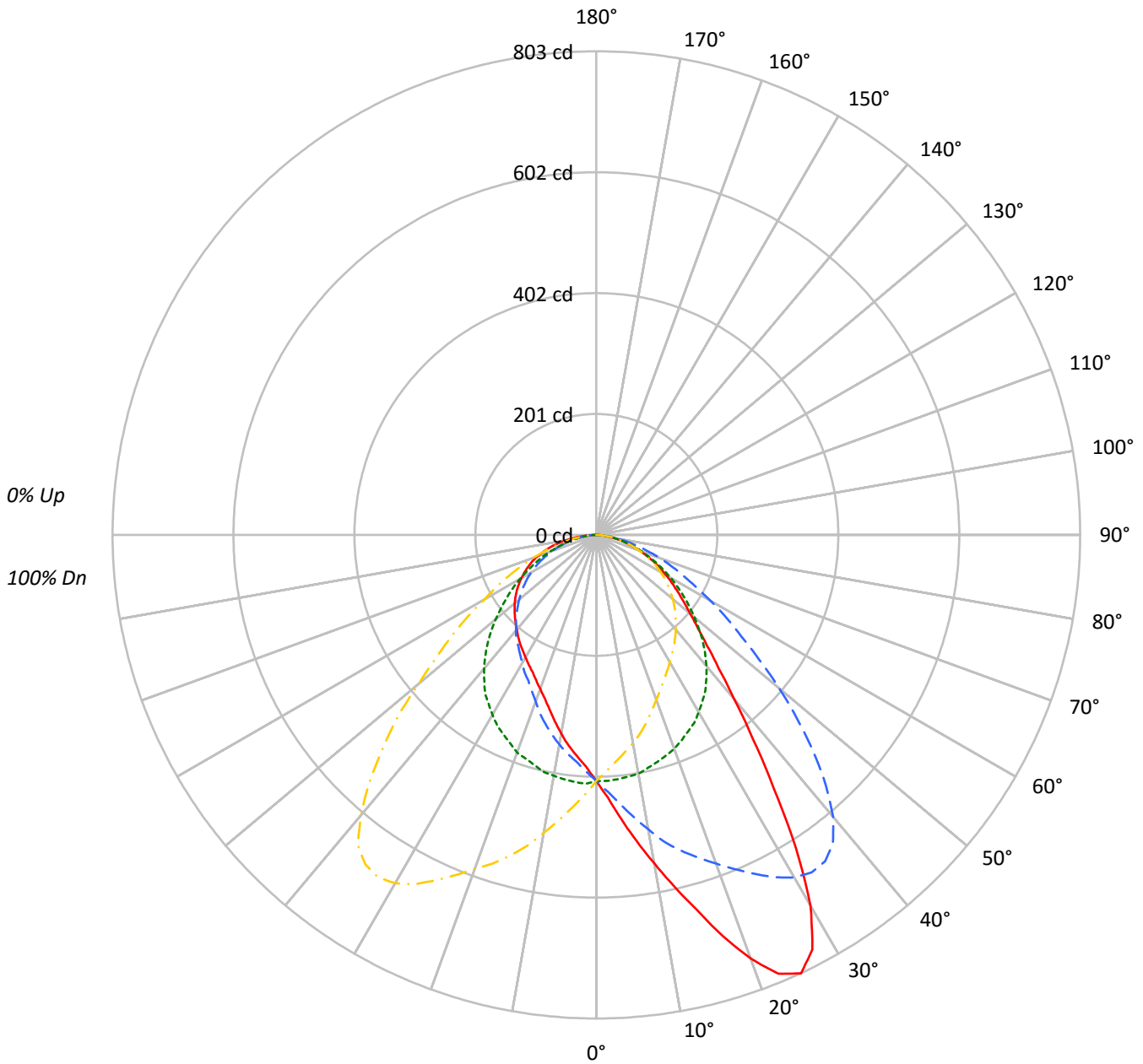
Input Watts (W): 13.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270° - - - 135°-315°



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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	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	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85																												
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72																												
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61																												
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	55	48	43	53	47	43	41																												
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36																												
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	3661	3661	3661	3661
5°	4256	3662	3316	3703
10°	5039	3662	3051	3694
15°	5977	3622	2782	3671
20°	7134	3603	2596	3668
25°	7941	3559	2481	3612
30°	7354	3516	2430	3568
35°	5605	3447	2412	3522
40°	4157	3326	2405	3392
45°	3285	3164	2423	3233
50°	2830	2962	2465	3036
55°	2578	2750	2518	2826
60°	2391	2541	2575	2629
65°	2216	2322	2652	2394
70°	2012	2101	2730	2172
75°	1790	1828	2725	1883
80°	1512	1491	2627	1610
85°	1090	1059	2426	1326



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.8	3.3
10°-20°	123.1	10.3
20°-30°	204.5	17.1
30°-40°	238.1	19.9
40°-50°	214.4	17.9
50°-60°	172.3	14.4
60°-70°	121.5	10.2
70°-80°	65.6	5.5
80°-90°	17.3	1.4
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°	367.4	30.7
0°-40°	605.5	50.6
0°-60°	992.1	82.9
0°-90°	1196.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1196.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	409	409	409	409	409	
5°	473	407	369	412	473	48
15°	644	390	300	396	644	187
25°	803	360	251	365	803	358
35°	512	315	220	322	512	323
45°	259	250	191	255	259	205
55°	165	176	161	181	165	148
65°	104	110	125	113	104	103
75°	52	53	79	54	52	55
85°	11	10	24	13	11	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	408.6	408.6	408.6	408.6	408.6	408.6	408.6	408.6	408.6	408.6	408.6
2.5°	436.0	432.6	426.5	415.5	409.0	396.8	391.9	388.1	385.4	385.4	393.0
5°	473.2	462.6	447.8	425.0	407.1	387.0	377.1	370.6	368.7	368.7	378.2
7.5°	512.8	497.6	472.1	434.5	404.8	377.1	363.8	355.4	352.7	353.9	366.0
10°	553.8	533.7	496.4	445.1	402.5	368.7	350.8	339.1	335.3	337.9	353.5
12.5°	597.9	570.2	522.3	451.2	396.1	356.9	337.2	321.6	317.4	320.8	339.8
15°	644.3	609.7	542.8	457.7	390.4	346.3	322.0	304.1	299.9	304.5	325.4
17.5°	698.6	652.3	561.8	462.6	384.3	335.3	305.6	288.9	284.7	288.1	311.3
20°	748.1	695.2	580.8	465.6	377.8	324.2	291.2	275.2	272.2	275.2	294.2
22.5°	788.7	736.3	600.6	463.0	369.1	310.9	277.5	264.2	261.1	262.7	280.1
25°	803.2	767.8	621.1	457.3	360.0	296.1	265.3	255.1	250.9	252.8	267.2
27.5°	776.2	772.8	640.9	448.9	351.6	284.3	254.3	244.8	242.9	244.4	257.7
30°	710.8	746.2	656.8	439.0	339.8	271.8	243.7	236.1	234.9	238.3	245.6
32.5°	616.2	685.3	664.4	426.5	327.7	258.5	233.8	227.3	227.3	228.1	235.3
35°	512.4	601.3	661.8	412.0	315.1	246.3	224.3	219.3	220.5	218.9	225.8
37.5°	426.1	510.9	645.1	398.7	299.9	235.3	214.8	211.0	213.2	211.3	218.6
40°	355.4	428.4	611.2	383.2	284.3	223.1	205.3	203.0	205.6	203.7	207.2
42.5°	300.3	360.0	564.1	366.8	267.2	211.7	195.4	194.6	198.4	195.4	197.3
45°	259.2	304.9	509.7	350.1	249.7	200.3	185.5	186.6	191.2	187.4	187.8
47.5°	227.7	262.3	451.6	331.1	230.7	188.9	175.6	178.3	184.0	179.0	177.5
50°	203.0	228.8	396.1	310.6	212.5	177.5	165.3	169.2	176.8	170.7	167.3
52.5°	182.8	201.8	340.6	288.9	194.2	165.3	155.1	160.8	169.2	162.7	157.0
55°	165.0	179.4	293.8	266.5	176.0	153.2	144.4	152.0	161.2	153.9	146.7
57.5°	148.6	160.0	255.4	243.3	158.9	140.6	134.2	142.2	152.4	144.8	136.1
60°	133.4	141.8	218.6	217.4	141.8	128.1	123.2	132.3	143.7	134.9	125.1
62.5°	118.6	125.4	184.7	191.6	125.1	115.2	112.1	122.0	134.2	124.7	113.7
65°	104.5	109.9	157.0	166.9	109.5	101.9	100.4	111.4	125.1	113.7	101.9
67.5°	90.1	94.3	134.2	142.9	93.1	88.2	88.2	100.4	115.2	102.6	89.7
70°	76.8	79.1	111.0	119.0	80.2	75.6	75.6	88.2	104.2	90.5	77.9
72.5°	63.9	65.8	89.3	96.2	66.1	62.7	64.2	76.8	91.2	79.1	66.1
75°	51.7	52.8	69.2	75.6	52.8	50.6	52.5	65.4	78.7	67.3	54.7
77.5°	40.3	40.7	53.2	57.0	40.3	39.2	41.1	54.4	65.0	55.1	43.3
80°	29.3	29.6	38.0	40.7	28.9	28.5	30.8	42.6	50.9	43.3	32.7
82.5°	19.0	19.8	25.5	26.2	18.6	19.0	21.3	30.8	36.9	31.5	23.2
85°	10.6	11.0	14.4	14.4	10.3	11.0	13.3	19.0	23.6	20.5	14.8
87.5°	4.2	4.2	5.7	5.7	4.2	4.9	6.1	10.3	11.8	10.6	7.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	408.6	408.6	408.6	408.6	408.6	408.6
2.5°	398.0	413.6	419.6	431.8	436.0	436.0
5°	388.5	411.7	429.5	453.9	467.2	473.2
7.5°	378.6	409.4	439.8	477.8	503.3	512.8
10°	368.7	406.0	449.7	502.1	540.9	553.8
12.5°	361.5	403.3	461.5	528.4	578.9	597.9
15°	348.2	395.7	465.3	550.8	617.7	644.3
17.5°	337.5	389.6	471.3	572.1	661.8	698.6
20°	325.4	384.7	473.6	589.9	707.8	748.1
22.5°	314.4	374.4	474.4	611.6	749.6	788.7
25°	299.1	365.3	468.3	632.9	778.5	803.2
27.5°	285.5	356.5	460.3	653.8	781.9	776.2
30°	274.4	344.8	452.0	667.9	752.2	710.8
32.5°	260.0	332.6	436.8	674.3	683.8	616.2
35°	247.8	322.0	423.4	668.2	596.0	512.4
37.5°	238.0	305.6	410.1	650.0	504.8	426.1
40°	224.6	290.0	394.2	607.8	423.4	355.4
42.5°	213.2	272.9	377.5	558.0	355.4	300.3
45°	201.8	255.1	358.4	501.4	301.8	259.2
47.5°	190.1	237.2	339.1	447.4	260.0	227.7
50°	178.7	217.8	320.1	385.4	227.3	203.0
52.5°	167.3	199.2	297.6	334.9	200.7	182.8
55°	155.5	180.9	272.2	293.4	178.7	165.0
57.5°	142.9	164.2	247.5	253.2	158.9	148.6
60°	130.8	146.7	224.3	214.8	141.0	133.4
62.5°	117.8	128.5	197.7	186.6	124.7	118.6
65°	104.9	112.9	172.6	158.9	109.1	104.5
67.5°	91.2	98.4	148.2	133.8	93.5	90.1
70°	77.5	82.9	123.9	111.4	79.4	76.8
72.5°	65.4	67.3	101.5	89.7	66.1	63.9
75°	52.8	54.4	80.2	71.5	53.2	51.7
77.5°	42.2	42.6	61.6	54.7	41.4	40.3
80°	30.4	31.2	44.1	39.9	30.4	29.3
82.5°	21.3	20.9	29.6	27.0	21.3	19.0
85°	12.9	12.9	17.5	16.0	11.8	10.6
87.5°	6.5	6.5	8.0	7.2	4.9	4.2
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)