

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055781

Luminaire Tested: S123R3DR-H560D930-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055781
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H560D930-X4F0-XX-UDD-FLL-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

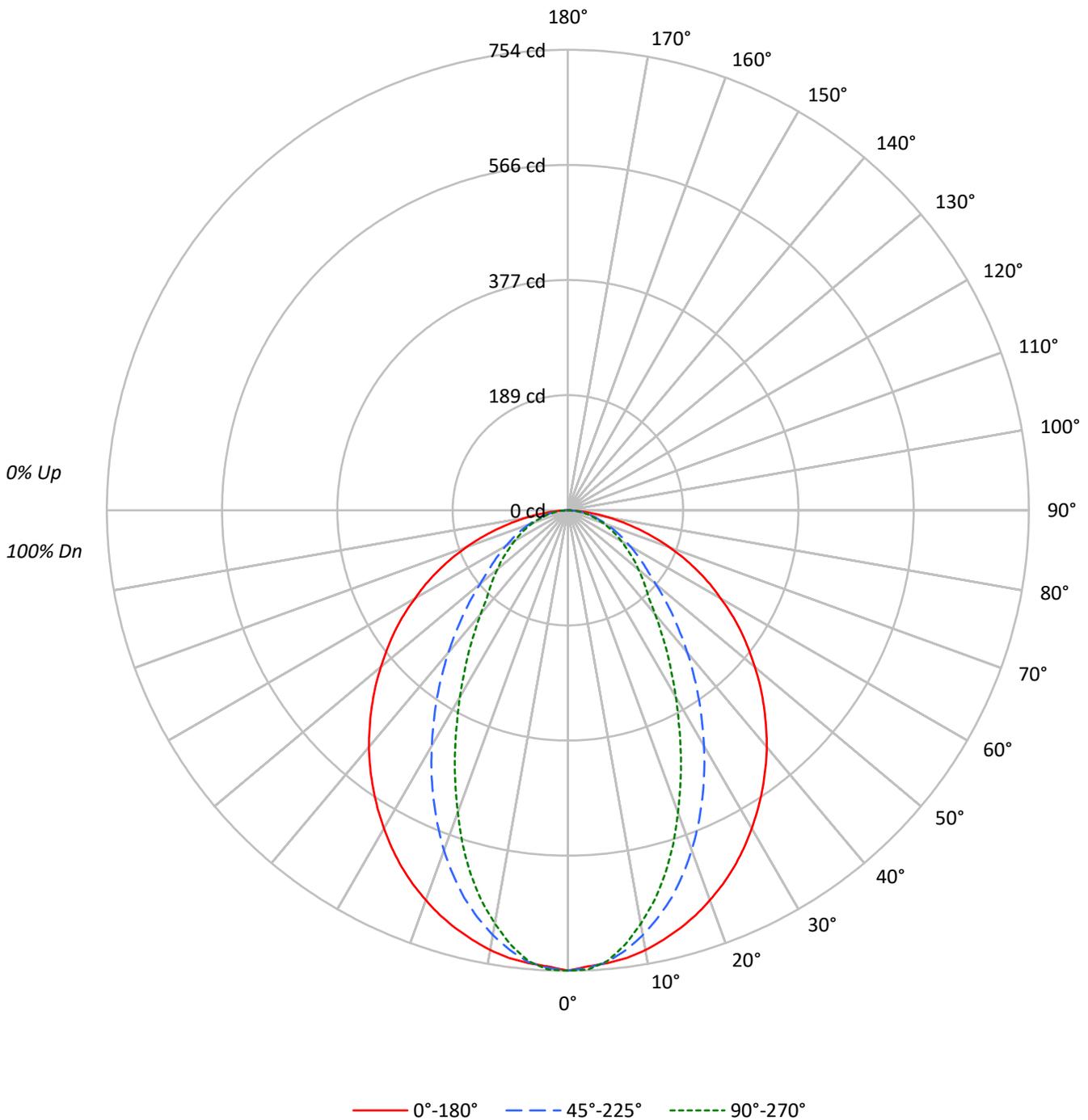
Lumens per Lamp: N/A
Luminaire Lumens: 1321.9 lumens
Efficiency: N/A
Efficacy: 76.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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: 24 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	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													100															
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86													86															
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74													74															
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65													65															
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57													57															
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50													50															
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45													45															
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40													40															
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37													37															
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34													34															
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31													31															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9087	9087	9087
5°	9005	8985	8966
10°	8952	8648	8413
15°	8845	8190	7684
20°	8716	7602	6755
25°	8564	6921	5812
30°	8374	6192	4913
35°	8173	5477	4149
40°	7967	4783	3486
45°	7727	4123	3076
50°	7486	3511	2823
55°	7264	3128	2606
60°	6959	2828	2433
65°	6676	2590	2285
70°	6222	2383	2147
75°	5567	2208	2022
80°	4777	2034	1882
85°	3348	1867	1798

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7727 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.9	5.3
10°-20°	184.9	14.0
20°-30°	243.5	18.4
30°-40°	247.1	18.7
40°-50°	214.8	16.3
50°-60°	168.3	12.7
60°-70°	114.4	8.7
70°-80°	62.0	4.7
80°-90°	17.1	1.3
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°	498.2	37.7
0°-40°	745.4	56.4
0°-60°	1128.5	85.4
0°-90°	1321.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1321.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	754	754	754	754	754	
5°	744	753	742	736	741	71
15°	709	698	656	624	616	200
25°	644	605	520	456	437	296
35°	555	489	372	301	282	347
45°	453	364	242	187	180	350
55°	346	240	149	127	124	308
65°	234	130	91	81	80	231
75°	120	60	47	44	43	128
85°	24	15	14	12	13	31
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	753.7	753.7	753.7	753.7	753.7
2.5°	747.5	757.1	749.8	750.3	752.6
5°	744.1	753.2	742.4	735.7	740.8
7.5°	739.1	745.8	726.1	715.4	717.1
10°	731.2	733.4	706.4	689.5	687.2
12.5°	720.5	716.5	682.7	657.9	653.9
15°	708.6	698.5	656.2	624.1	615.6
17.5°	695.1	678.2	625.2	585.7	572.8
20°	679.3	655.6	592.5	542.3	526.5
22.5°	662.4	632.0	557.0	497.8	481.4
25°	643.8	604.9	520.3	455.5	436.9
27.5°	623.5	577.8	483.1	413.8	392.9
30°	601.5	549.6	444.8	373.2	352.9
32.5°	579.0	519.8	408.1	335.4	315.7
35°	555.3	489.3	372.1	301.0	281.9
37.5°	531.0	458.3	337.1	268.3	250.3
40°	506.2	426.7	303.9	237.9	221.5
42.5°	479.7	395.2	271.7	209.1	196.7
45°	453.2	363.6	241.8	186.6	180.4
47.5°	426.7	331.5	213.7	170.8	165.2
50°	399.1	300.5	187.2	156.2	150.5
52.5°	372.1	270.0	165.2	142.1	138.1
55°	345.6	240.2	148.8	126.8	124.0
57.5°	317.9	210.8	132.5	115.0	111.6
60°	288.6	182.7	117.3	102.6	100.9
62.5°	262.1	156.2	103.7	91.9	90.2
65°	234.0	129.7	90.8	81.2	80.1
67.5°	205.2	107.7	78.9	71.0	70.5
70°	176.5	90.8	67.6	61.4	60.9
72.5°	148.3	75.0	56.9	53.0	51.9
75°	119.5	59.8	47.4	44.0	43.4
77.5°	93.6	46.2	37.8	35.5	35.0
80°	68.8	34.4	29.3	27.6	27.1
82.5°	45.1	23.7	20.9	19.7	19.7
85°	24.2	14.7	13.5	12.4	13.0
87.5°	8.5	6.2	6.2	5.6	6.2
90°	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	18.22	19.72	18.59	20.03	20.34	13.37	14.87	13.74	15.18	15.49
	3H	20.11	21.45	20.49	21.78	22.14	15.00	16.34	15.38	16.67	17.03
	4H	20.87	22.12	21.27	22.47	22.85	15.64	16.89	16.04	17.24	17.62
	6H	21.43	22.59	21.85	22.96	23.35	16.13	17.29	16.54	17.66	18.05
	8H	21.61	22.71	22.03	23.10	23.50	16.30	17.40	16.73	17.79	18.20
	12H	21.70	22.76	22.13	23.14	23.57	16.42	17.48	16.85	17.86	18.29
4H	2H	18.27	19.53	18.67	19.88	20.25	14.10	15.36	14.50	15.71	16.09
	3H	20.29	21.33	20.70	21.73	22.13	15.92	16.97	16.33	17.37	17.77
	4H	21.11	22.05	21.54	22.46	22.90	16.67	17.61	17.10	18.03	18.46
	6H	21.79	22.61	22.25	23.05	23.51	17.28	18.10	17.74	18.54	19.00
	8H	22.02	22.78	22.48	23.23	23.70	17.49	18.26	17.96	18.70	19.17
	12H	22.17	22.85	22.65	23.33	23.80	17.66	18.34	18.14	18.82	19.29
8H	4H	21.13	21.89	21.59	22.34	22.81	17.05	17.82	17.52	18.26	18.73
	6H	21.86	22.49	22.36	22.98	23.46	17.78	18.41	18.28	18.91	19.38
	8H	22.13	22.70	22.64	23.21	23.69	18.07	18.64	18.58	19.15	19.63
	12H	22.34	22.84	22.85	23.33	23.90	18.31	18.81	18.82	19.31	19.87
12H	4H	21.12	21.80	21.60	22.28	22.75	17.11	17.79	17.59	18.27	18.74
	6H	21.84	22.41	22.36	22.92	23.41	17.86	18.43	18.38	18.94	19.43
	8H	22.15	22.65	22.66	23.14	23.71	18.21	18.71	18.72	19.20	19.77