

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



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1056217

Luminaire Tested: S124R3DR-H795D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056217
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H795D940-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

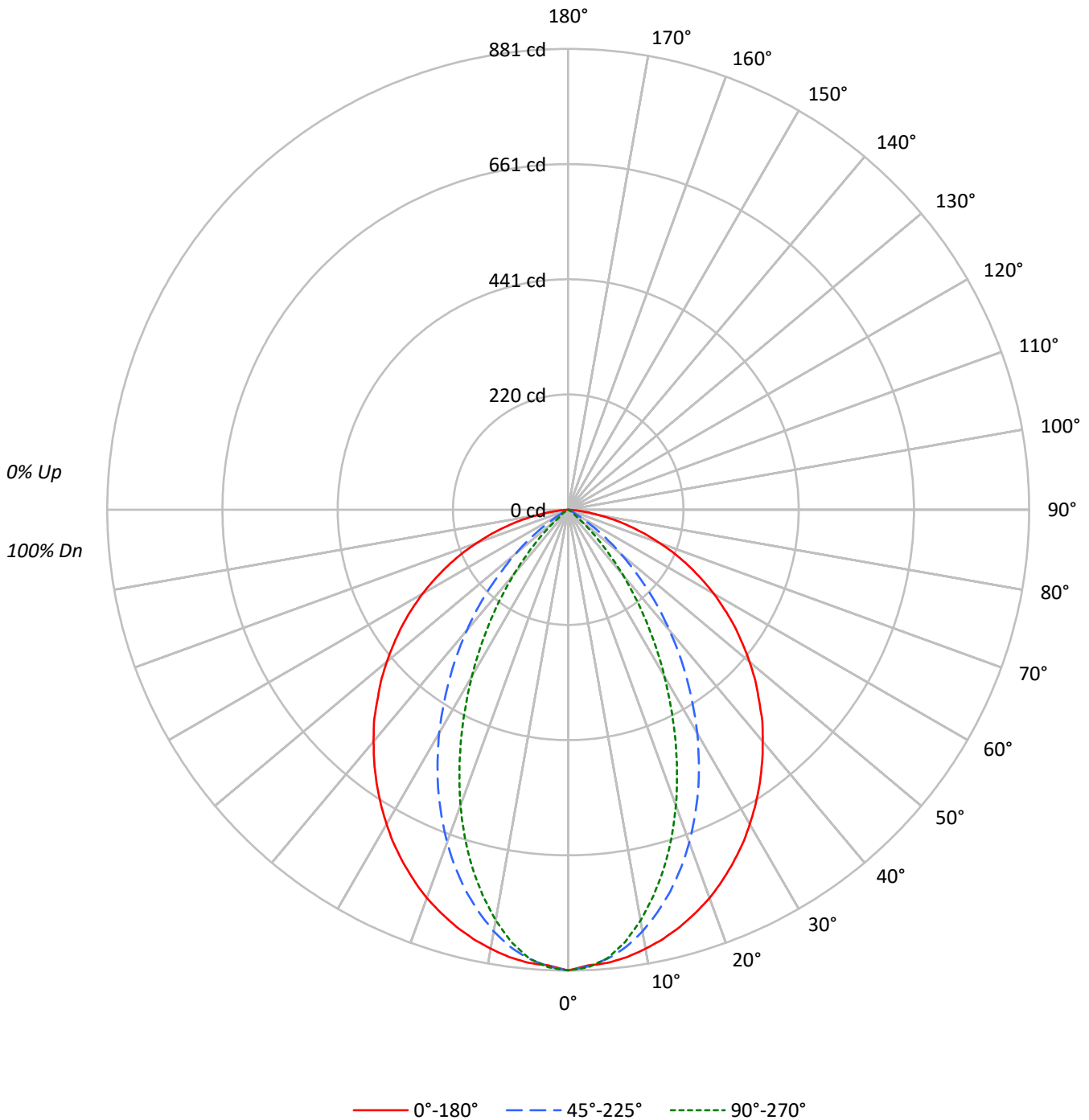
Lumens per Lamp: N/A
Luminaire Lumens: 1231.1 lumens
Efficiency: N/A
Efficacy: 51.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7787	7787	7787
5°	7718	7649	7641
10°	7652	7349	7155
15°	7556	6908	6481
20°	7434	6370	5663
25°	7270	5736	4726
30°	7088	5034	3756
35°	6887	4269	2797
40°	6677	3479	1864
45°	6446	2656	1025
50°	6224	1817	285
55°	5976	985	187
60°	5680	306	106
65°	5312	199	54
70°	4800	90	23
75°	4130	31	0
80°	3121	0	0
85°	1319	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6446 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.3	6.6
10°-20°	213.3	17.3
20°-30°	275.6	22.4
30°-40°	263.5	21.4
40°-50°	197.0	16.0
50°-60°	117.3	9.5
60°-70°	59.5	4.8
70°-80°	20.7	1.7
80°-90°	2.8	0.2
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°	570.2	46.3
0°-40°	833.7	67.7
0°-60°	1148.0	93.3
0°-90°	1231.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1231.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	881	881	881	881	881	
5°	870	876	862	858	861	82
15°	826	808	755	719	708	233
25°	745	693	588	510	484	343
35°	638	550	396	294	259	399
45°	516	396	212	113	82	399
55°	388	241	64	15	12	346
65°	254	98	10	4	3	251
75°	121	13	1	1	0	128
85°	13	0	0	0	0	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	880.8	880.8	880.8	880.8	880.8
2.5°	872.1	882.5	873.9	874.7	875.6
5°	869.6	876.5	861.8	857.5	860.9
7.5°	862.6	865.2	843.6	832.4	833.3
10°	852.3	849.7	818.6	799.6	797.0
12.5°	840.2	831.6	788.4	760.7	754.7
15°	825.5	808.2	754.7	719.3	708.1
17.5°	808.2	783.2	717.6	670.9	657.1
20°	790.1	755.6	677.0	619.1	601.9
22.5°	768.5	724.5	632.9	564.7	543.1
25°	745.2	693.4	588.0	510.3	484.4
27.5°	721.0	659.7	540.6	455.1	424.8
30°	694.3	624.3	493.1	398.9	367.9
32.5°	666.6	588.0	443.8	347.1	312.6
35°	638.1	550.1	395.5	294.5	259.1
37.5°	608.8	512.1	348.9	244.4	208.1
40°	578.5	473.2	301.4	196.9	161.5
42.5°	549.2	434.3	256.5	152.0	119.2
45°	515.5	395.5	212.4	113.1	82.0
47.5°	485.3	357.5	170.1	76.9	48.4
50°	452.5	316.9	132.1	44.9	20.7
52.5°	419.7	278.9	96.7	19.9	15.5
55°	387.7	240.9	63.9	14.7	12.1
57.5°	354.0	202.9	34.5	11.2	8.6
60°	321.2	165.8	17.3	8.6	6.0
62.5°	287.5	130.4	13.8	5.2	3.5
65°	253.9	97.6	9.5	3.5	2.6
67.5°	220.2	66.5	6.0	1.7	0.9
70°	185.7	40.6	3.5	0.9	0.9
72.5°	152.8	20.7	1.7	0.9	0.9
75°	120.9	13.0	0.9	0.9	0.0
77.5°	89.8	6.9	0.9	0.9	0.0
80°	61.3	2.6	0.0	0.0	0.0
82.5°	35.4	0.9	0.0	0.0	0.0
85°	13.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	17.59	18.91	17.95	19.23	19.54	0.00	0.00	0.00	0.00	0.00
	3H	19.13	20.31	19.51	20.64	21.00	0.00	0.00	0.00	0.00	0.00
	4H	19.72	20.82	20.12	21.17	21.55	0.00	0.00	0.00	0.00	0.00
	6H	20.14	21.15	20.55	21.52	21.91	0.00	0.00	0.00	0.00	0.00
	8H	20.24	21.19	20.67	21.58	21.99	0.00	0.00	0.00	0.00	0.00
	12H	20.26	21.17	20.69	21.55	21.98	0.00	0.00	0.00	0.00	0.00
4H	2H	17.36	18.46	17.77	18.81	19.19	0.00	0.00	0.00	0.00	0.00
	3H	18.93	19.82	19.34	20.22	20.63	0.00	0.00	0.00	0.00	0.00
	4H	19.51	20.31	19.95	20.73	21.17	0.00	0.00	0.00	0.00	0.00
	6H	19.97	20.66	20.43	21.10	21.57	0.00	0.00	0.00	0.00	0.00
	8H	20.09	20.73	20.56	21.18	21.65	0.00	0.00	0.00	0.00	0.00
	12H	20.13	20.70	20.62	21.18	21.65	0.00	0.00	0.00	0.00	0.00
8H	4H	19.37	20.02	19.84	20.46	20.93	0.00	0.00	0.00	0.00	0.44
	6H	19.82	20.34	20.32	20.83	21.31	0.00	0.00	0.00	0.00	0.29
	8H	19.93	20.40	20.45	20.92	21.41	0.00	0.00	0.00	0.00	0.21
	12H	19.98	20.39	20.50	20.89	21.46	0.00	0.00	0.00	0.00	0.17
12H	4H	19.33	19.89	19.82	20.38	20.85	0.00	0.00	0.00	0.34	0.82
	6H	19.75	20.22	20.28	20.74	21.23	0.00	0.00	0.00	0.17	0.66
	8H	19.89	20.30	20.40	20.80	21.37	0.00	0.00	0.00	0.05	0.62