

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: P1055761

Luminaire Tested: S123R3DR-H340D950-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055761
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H340D950-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

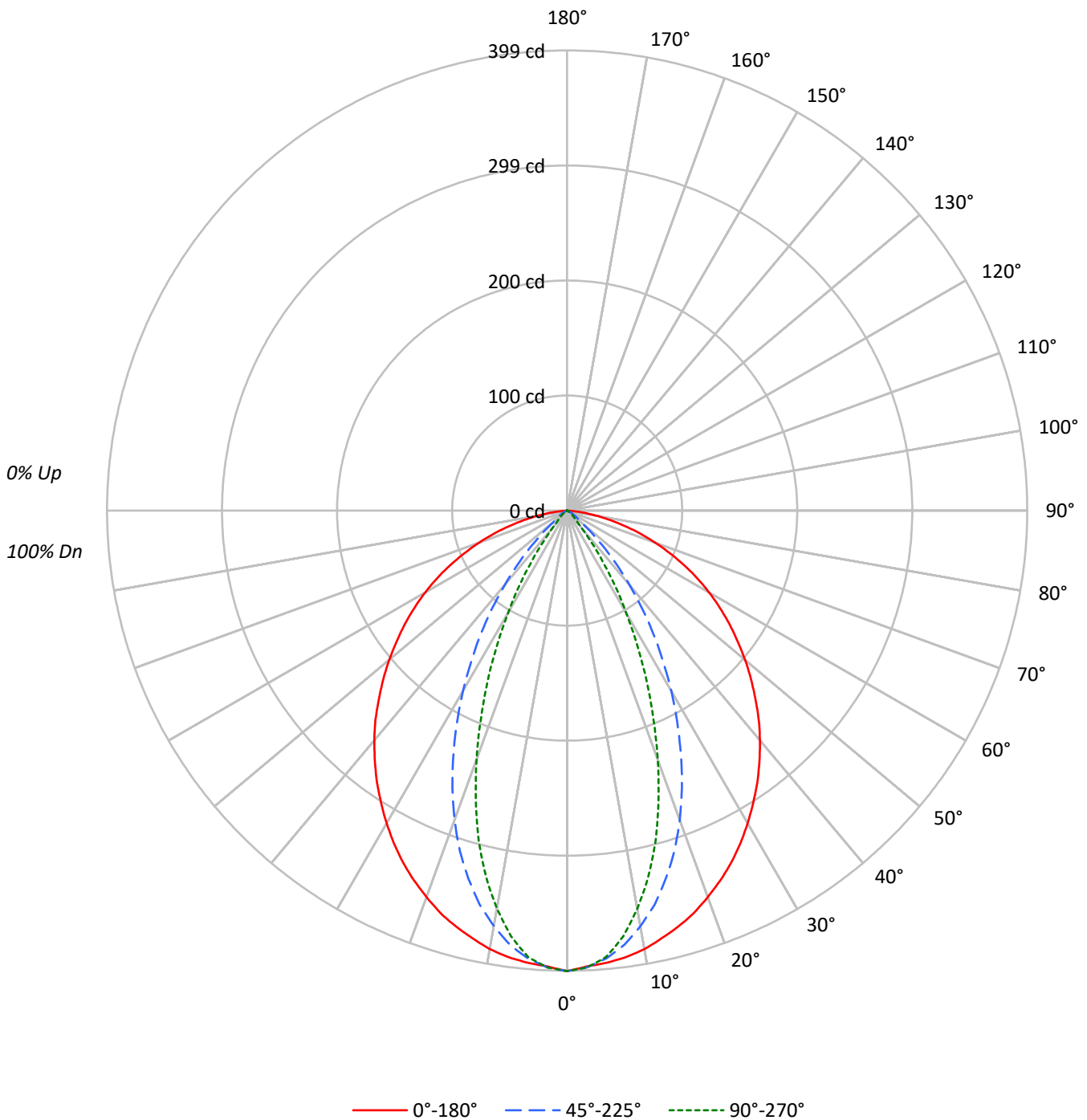
Lumens per Lamp: N/A
Luminaire Lumens: 467.3 lumens
Efficiency: N/A
Efficacy: 39.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4814	4814	4814
5°	4762	4718	4702
10°	4727	4478	4290
15°	4658	4125	3697
20°	4575	3662	2945
25°	4480	3102	2171
30°	4359	2514	1424
35°	4231	1915	780
40°	4094	1324	268
45°	3934	769	155
50°	3776	304	94
55°	3613	191	44
60°	3426	121	19
65°	3189	60	11
70°	2862	28	14
75°	2432	19	19
80°	1812	28	0
85°	692	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3934 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.6	7.8
10°-20°	92.9	19.9
20°-30°	110.8	23.7
30°-40°	94.0	20.1
40°-50°	63.9	13.7
50°-60°	39.6	8.5
60°-70°	20.0	4.3
70°-80°	8.2	1.7
80°-90°	1.3	0.3
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°	240.3	51.4
0°-40°	334.4	71.5
0°-60°	437.8	93.7
0°-90°	467.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	467.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	399	399	399	399	399	
5°	394	397	390	387	388	37
15°	373	364	330	304	296	105
25°	337	305	233	180	163	155
35°	288	231	130	70	53	180
45°	231	151	45	11	9	178
55°	172	76	9	3	2	154
65°	112	19	2	0	0	110
75°	52	3	0	0	0	55
85°	5	0	0	0	0	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	399.3	399.3	399.3	399.3	399.3
2.5°	395.6	401.0	396.4	396.0	396.4
5°	393.5	397.2	389.8	386.9	388.5
7.5°	390.6	392.3	379.8	372.4	372.4
10°	386.1	384.8	365.8	353.3	350.4
12.5°	379.8	374.9	350.0	330.5	325.2
15°	373.2	363.7	330.5	304.5	296.2
17.5°	365.8	351.3	309.4	275.5	263.4
20°	356.6	337.2	285.4	244.0	229.5
22.5°	347.1	321.8	260.1	211.7	195.5
25°	336.8	305.3	233.2	180.2	163.2
27.5°	325.2	287.9	206.7	149.9	131.3
30°	313.1	269.7	180.6	121.0	102.3
32.5°	300.3	250.6	154.5	94.4	77.0
35°	287.5	230.7	130.1	70.0	53.0
37.5°	273.8	210.8	106.5	48.5	33.6
40°	260.1	191.4	84.1	30.7	17.0
42.5°	246.0	171.1	63.8	15.3	11.6
45°	230.7	151.2	45.1	11.2	9.1
47.5°	216.2	132.1	29.8	9.1	7.0
50°	201.3	113.1	16.2	6.6	5.0
52.5°	186.4	94.9	11.6	5.0	3.3
55°	171.9	76.2	9.1	3.3	2.1
57.5°	157.0	60.1	7.0	2.1	1.2
60°	142.1	44.3	5.0	1.2	0.8
62.5°	127.2	30.7	3.3	0.8	0.4
65°	111.8	18.6	2.1	0.4	0.4
67.5°	96.1	12.8	1.2	0.4	0.4
70°	81.2	9.1	0.8	0.4	0.4
72.5°	66.3	5.8	0.4	0.4	0.0
75°	52.2	3.3	0.4	0.4	0.4
77.5°	38.5	1.2	0.4	0.4	0.0
80°	26.1	0.4	0.4	0.4	0.0
82.5°	14.5	0.0	0.4	0.4	0.0
85°	5.0	0.0	0.0	0.4	0.0
87.5°	0.0	0.0	0.0	0.4	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	14.51	15.79	14.88	16.10	16.42	0.00	0.00	0.00	0.00	0.00
	3H	16.45	17.59	16.83	17.92	18.28	0.00	0.00	0.00	0.00	0.00
	4H	17.28	18.34	17.68	18.69	19.07	0.00	0.00	0.00	0.00	0.00
	6H	17.83	18.80	18.25	19.17	19.57	0.00	0.00	0.00	0.00	0.00
	8H	17.96	18.88	18.39	19.27	19.67	0.00	0.00	0.00	0.00	0.00
	12H	17.98	18.86	18.42	19.24	19.67	0.00	0.00	0.00	0.00	0.00
4H	2H	14.27	15.33	14.68	15.68	16.07	0.00	0.00	0.00	0.00	0.00
	3H	16.23	17.09	16.64	17.49	17.90	0.00	0.00	0.00	0.00	0.00
	4H	17.04	17.81	17.47	18.23	18.67	0.00	0.00	0.00	0.00	0.00
	6H	17.64	18.30	18.10	18.75	19.22	0.00	0.00	0.00	0.00	0.00
	8H	17.79	18.41	18.26	18.86	19.33	0.00	0.00	0.00	0.00	0.00
	12H	17.84	18.38	18.33	18.87	19.34	0.00	0.00	0.00	0.00	0.00
8H	4H	16.90	17.51	17.37	17.96	18.43	0.00	0.00	0.00	0.00	0.00
	6H	17.48	17.98	17.98	18.48	18.96	0.00	0.00	0.00	0.00	0.00
	8H	17.63	18.08	18.15	18.59	19.09	0.00	0.00	0.00	0.00	0.00
	12H	17.68	18.08	18.20	18.58	19.15	0.00	0.00	0.00	0.00	0.00
12H	4H	16.85	17.39	17.34	17.88	18.35	0.00	0.00	0.00	0.00	0.00
	6H	17.41	17.86	17.94	18.38	18.87	0.00	0.00	0.00	0.00	0.00
	8H	17.58	17.98	18.10	18.47	19.05	0.00	0.00	0.00	0.00	0.00