

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: P1055749

Luminaire Tested: S123R3DR-H340D927-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055749
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-H340D927-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

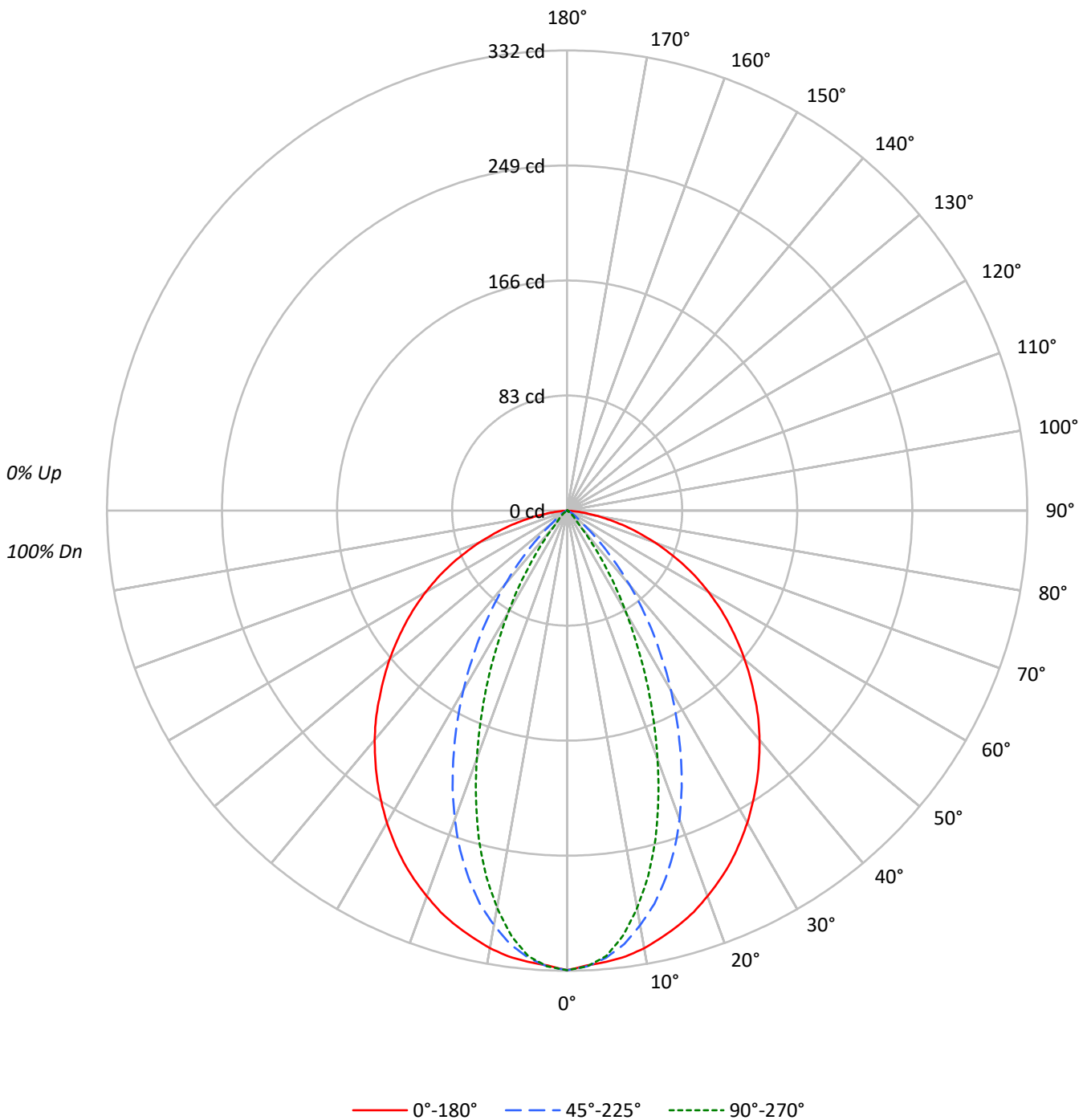
Lumens per Lamp: N/A
Luminaire Lumens: 388.0 lumens
Efficiency: N/A
Efficacy: 33.2 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (Ain): 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	88	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°	3998	3998	3998
5°	3955	3918	3904
10°	3925	3718	3563
15°	3868	3426	3069
20°	3799	3041	2445
25°	3719	2575	1803
30°	3620	2088	1183
35°	3513	1590	648
40°	3400	1099	222
45°	3267	639	130
50°	3136	251	77
55°	3000	160	36
60°	2845	99	17
65°	2650	48	9
70°	2376	25	11
75°	2017	14	14
80°	1507	21	0
85°	567	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3267 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.4	7.8
10°-20°	77.1	19.9
20°-30°	92.0	23.7
30°-40°	78.1	20.1
40°-50°	53.1	13.7
50°-60°	32.9	8.5
60°-70°	16.7	4.3
70°-80°	6.8	1.7
80°-90°	1.0	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°	199.6	51.4
0°-40°	277.6	71.6
0°-60°	363.6	93.7
0°-90°	388.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	388.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	332	332	332	332	332	
5°	327	330	324	321	323	31
15°	310	302	274	253	246	87
25°	280	254	194	150	136	129
35°	239	192	108	58	44	149
45°	192	126	38	9	8	148
55°	143	63	8	3	2	128
65°	93	16	2	0	0	92
75°	43	3	0	0	0	46
85°	4	0	0	0	0	7
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	331.6	331.6	331.6	331.6	331.6
2.5°	328.5	333.0	329.2	328.8	329.2
5°	326.8	329.9	323.7	321.3	322.6
7.5°	324.4	325.7	315.4	309.2	309.2
10°	320.6	319.5	303.7	293.4	291.0
12.5°	315.4	311.3	290.6	274.5	270.0
15°	309.9	302.0	274.5	252.8	245.9
17.5°	303.7	291.7	256.9	228.7	218.8
20°	296.1	280.0	237.0	202.6	190.6
22.5°	288.2	267.3	216.0	175.8	162.3
25°	279.6	253.5	193.6	149.6	135.5
27.5°	270.0	239.1	171.6	124.5	109.0
30°	260.0	223.9	150.0	100.4	85.0
32.5°	249.4	208.1	128.3	78.4	64.0
35°	238.7	191.6	108.0	58.1	44.0
37.5°	227.4	175.1	88.4	40.2	27.9
40°	216.0	158.9	69.8	25.5	14.1
42.5°	204.3	142.1	53.0	12.7	9.6
45°	191.6	125.5	37.5	9.3	7.6
47.5°	179.5	109.7	24.8	7.6	5.8
50°	167.2	93.9	13.4	5.5	4.1
52.5°	154.8	78.8	9.6	4.1	2.8
55°	142.7	63.3	7.6	2.8	1.7
57.5°	130.4	49.9	5.8	1.7	1.0
60°	118.0	36.8	4.1	1.0	0.7
62.5°	105.6	25.5	2.8	0.7	0.3
65°	92.9	15.5	1.7	0.3	0.3
67.5°	79.8	10.7	1.0	0.3	0.3
70°	67.4	7.6	0.7	0.3	0.3
72.5°	55.0	4.8	0.3	0.3	0.0
75°	43.3	2.8	0.3	0.3	0.3
77.5°	32.0	1.0	0.3	0.3	0.0
80°	21.7	0.3	0.3	0.3	0.0
82.5°	12.0	0.0	0.3	0.3	0.0
85°	4.1	0.0	0.0	0.3	0.0
87.5°	0.0	0.0	0.0	0.3	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	13.87	15.15	14.23	15.46	15.77	0.00	0.00	0.00	0.00	0.00
	3H	15.81	16.94	16.19	17.28	17.64	0.00	0.00	0.00	0.00	0.00
	4H	16.64	17.69	17.04	18.04	18.43	0.00	0.00	0.00	0.00	0.00
	6H	17.19	18.16	17.61	18.53	18.92	0.00	0.00	0.00	0.00	0.00
	8H	17.32	18.23	17.75	18.62	19.03	0.00	0.00	0.00	0.00	0.00
	12H	17.34	18.22	17.77	18.60	19.03	0.00	0.00	0.00	0.00	0.00
4H	2H	13.63	14.68	14.03	15.04	15.42	0.00	0.00	0.00	0.00	0.00
	3H	15.58	16.44	16.00	16.85	17.25	0.00	0.00	0.00	0.00	0.00
	4H	16.39	17.16	16.83	17.58	18.03	0.00	0.00	0.00	0.00	0.00
	6H	17.00	17.66	17.46	18.10	18.57	0.00	0.00	0.00	0.00	0.00
	8H	17.15	17.76	17.62	18.21	18.68	0.00	0.00	0.00	0.00	0.00
	12H	17.19	17.74	17.68	18.22	18.70	0.00	0.00	0.00	0.00	0.00
8H	4H	16.25	16.87	16.72	17.32	17.79	0.00	0.00	0.00	0.00	0.00
	6H	16.83	17.34	17.34	17.83	18.32	0.00	0.00	0.00	0.00	0.00
	8H	16.98	17.43	17.51	17.95	18.44	0.00	0.00	0.00	0.00	0.00
	12H	17.04	17.43	17.55	17.93	18.50	0.00	0.00	0.00	0.00	0.00
12H	4H	16.20	16.75	16.69	17.23	17.71	0.00	0.00	0.00	0.00	0.00
	6H	16.77	17.22	17.29	17.74	18.23	0.00	0.00	0.00	0.00	0.00
	8H	16.94	17.33	17.45	17.83	18.40	0.00	0.00	0.00	0.00	0.00