

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: P1055758

Luminaire Tested: S123R3DR-H340D940-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055758
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-H340D940-X4F0-XX-UDD-FLL-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

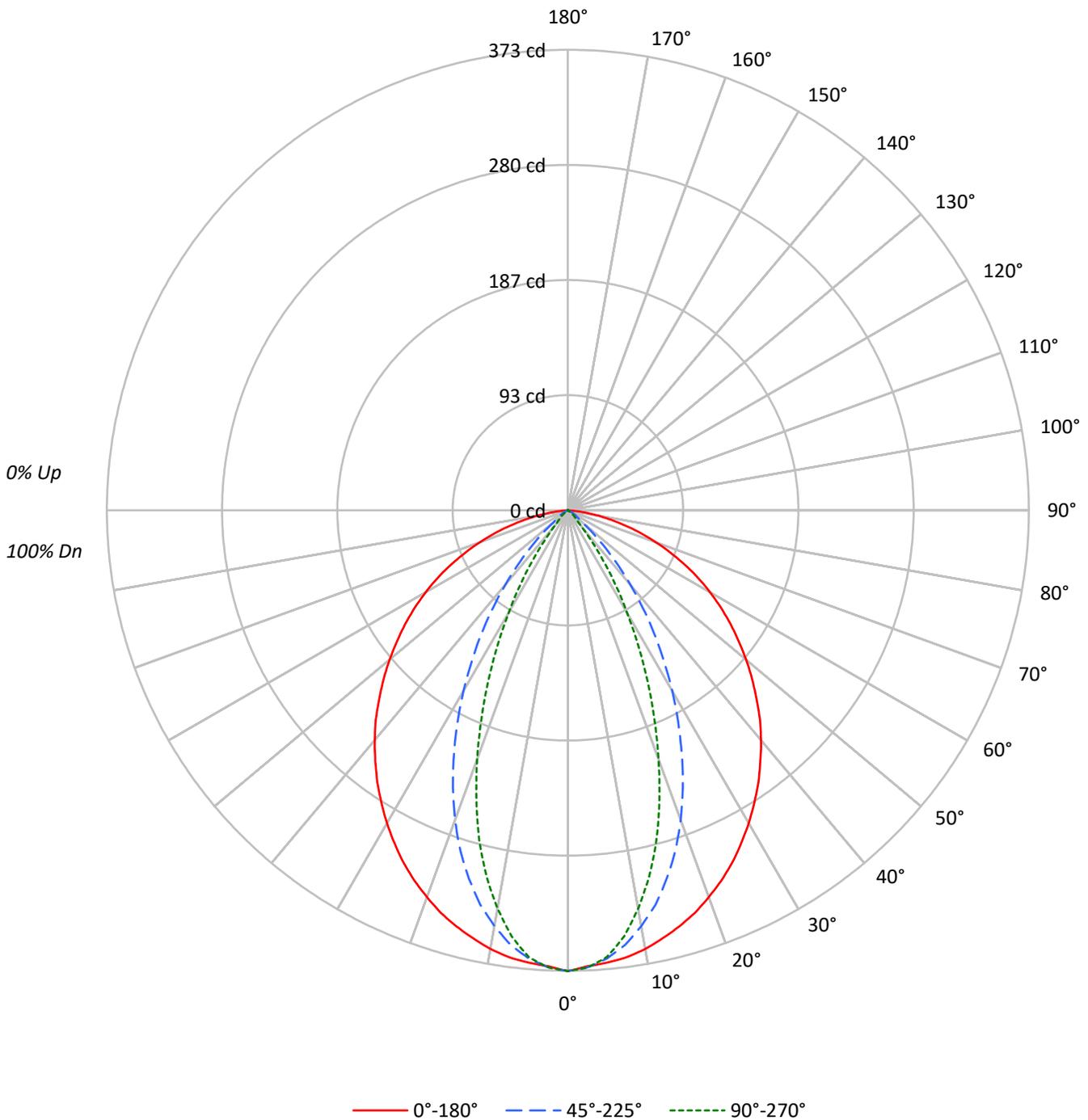
Lumens per Lamp: N/A
Luminaire Lumens: 436.8 lumens
Efficiency: N/A
Efficacy: 37.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1055758

CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-FLL-B

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	57	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°	4499	4499	4499
5°	4451	4409	4396
10°	4417	4186	4009
15°	4354	3857	3455
20°	4278	3423	2752
25°	4188	2900	2029
30°	4075	2350	1331
35°	3955	1790	730
40°	3826	1237	250
45°	3678	720	145
50°	3530	283	86
55°	3378	179	40
60°	3202	111	19
65°	2981	54	11
70°	2676	28	14
75°	2273	19	19
80°	1694	28	0
85°	636	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3678 cd/sqm



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CATALOG NUMBER: S123R3DR-H340D940-X4F0-XX-UDD-FLL-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.2	7.8
10°-20°	86.8	19.9
20°-30°	103.6	23.7
30°-40°	87.9	20.1
40°-50°	59.7	13.7
50°-60°	37.0	8.5
60°-70°	18.8	4.3
70°-80°	7.7	1.8
80°-90°	1.2	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°	224.6	51.4
0°-40°	312.5	71.5
0°-60°	409.2	93.7
0°-90°	436.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	436.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	373	373	373	373	373	
5°	368	371	364	362	363	35
15°	349	340	309	285	277	98
25°	315	285	218	168	152	145
35°	269	216	122	65	50	168
45°	216	141	42	10	8	167
55°	161	71	8	3	2	144
65°	104	17	2	0	0	103
75°	49	3	0	0	0	52
85°	5	0	0	0	0	8
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	373.2	373.2	373.2	373.2	373.2
2.5°	369.7	374.8	370.5	370.1	370.5
5°	367.8	371.3	364.3	361.6	363.2
7.5°	365.1	366.7	355.0	348.1	348.1
10°	360.8	359.7	341.9	330.3	327.5
12.5°	355.0	350.4	327.2	309.0	303.9
15°	348.8	339.9	309.0	284.6	276.8
17.5°	341.9	328.3	289.2	257.5	246.2
20°	333.4	315.2	266.8	228.0	214.5
22.5°	324.5	300.8	243.1	197.8	182.7
25°	314.8	285.3	218.0	168.4	152.5
27.5°	303.9	269.1	193.2	140.2	122.7
30°	292.7	252.0	168.8	113.1	95.6
32.5°	280.7	234.2	144.4	88.3	72.0
35°	268.7	215.7	121.6	65.4	49.6
37.5°	255.9	197.1	99.5	45.3	31.4
40°	243.1	178.9	78.6	28.7	15.9
42.5°	230.0	159.9	59.6	14.3	10.8
45°	215.7	141.3	42.2	10.5	8.5
47.5°	202.1	123.5	27.9	8.5	6.6
50°	188.2	105.7	15.1	6.2	4.6
52.5°	174.2	88.7	10.8	4.6	3.1
55°	160.7	71.2	8.5	3.1	1.9
57.5°	146.7	56.1	6.6	1.9	1.2
60°	132.8	41.4	4.6	1.2	0.8
62.5°	118.9	28.7	3.1	0.8	0.4
65°	104.5	17.4	1.9	0.4	0.4
67.5°	89.8	12.0	1.2	0.4	0.4
70°	75.9	8.5	0.8	0.4	0.4
72.5°	61.9	5.4	0.4	0.4	0.0
75°	48.8	3.1	0.4	0.4	0.4
77.5°	36.0	1.2	0.4	0.4	0.0
80°	24.4	0.4	0.4	0.4	0.0
82.5°	13.6	0.0	0.4	0.4	0.0
85°	4.6	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	14.27	15.55	14.63	15.86	16.18	0.00	0.00	0.00	0.00	0.00
	3H	16.22	17.35	16.60	17.68	18.05	0.00	0.00	0.00	0.00	0.00
	4H	17.04	18.10	17.45	18.45	18.83	0.00	0.00	0.00	0.00	0.00
	6H	17.60	18.57	18.01	18.94	19.33	0.00	0.00	0.00	0.00	0.00
	8H	17.72	18.64	18.16	19.03	19.44	0.00	0.00	0.00	0.00	0.00
	12H	17.75	18.62	18.18	19.01	19.44	0.00	0.00	0.00	0.00	0.00
4H	2H	14.03	15.09	14.44	15.44	15.82	0.00	0.00	0.00	0.00	0.00
	3H	15.99	16.85	16.40	17.25	17.66	0.00	0.00	0.00	0.00	0.00
	4H	16.80	17.57	17.24	17.99	18.43	0.00	0.00	0.00	0.00	0.00
	6H	17.40	18.07	17.87	18.51	18.98	0.00	0.00	0.00	0.00	0.00
	8H	17.56	18.17	18.03	18.62	19.09	0.00	0.00	0.00	0.00	0.00
	12H	17.60	18.15	18.09	18.63	19.11	0.00	0.00	0.00	0.00	0.00
8H	4H	16.66	17.28	17.13	17.72	18.20	0.00	0.00	0.00	0.00	0.00
	6H	17.24	17.74	17.75	18.24	18.72	0.00	0.00	0.00	0.00	0.00
	8H	17.39	17.84	17.92	18.36	18.85	0.00	0.00	0.00	0.00	0.00
	12H	17.45	17.84	17.97	18.34	18.91	0.00	0.00	0.00	0.00	0.00
12H	4H	16.61	17.15	17.10	17.64	18.11	0.00	0.00	0.00	0.00	0.00
	6H	17.18	17.63	17.70	18.14	18.64	0.00	0.00	0.00	0.00	0.00
	8H	17.35	17.74	17.86	18.24	18.81	0.00	0.00	0.00	0.00	0.00