

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: P1055747

Luminaire Tested: S123R3DR-H340D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055747
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H340D850-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

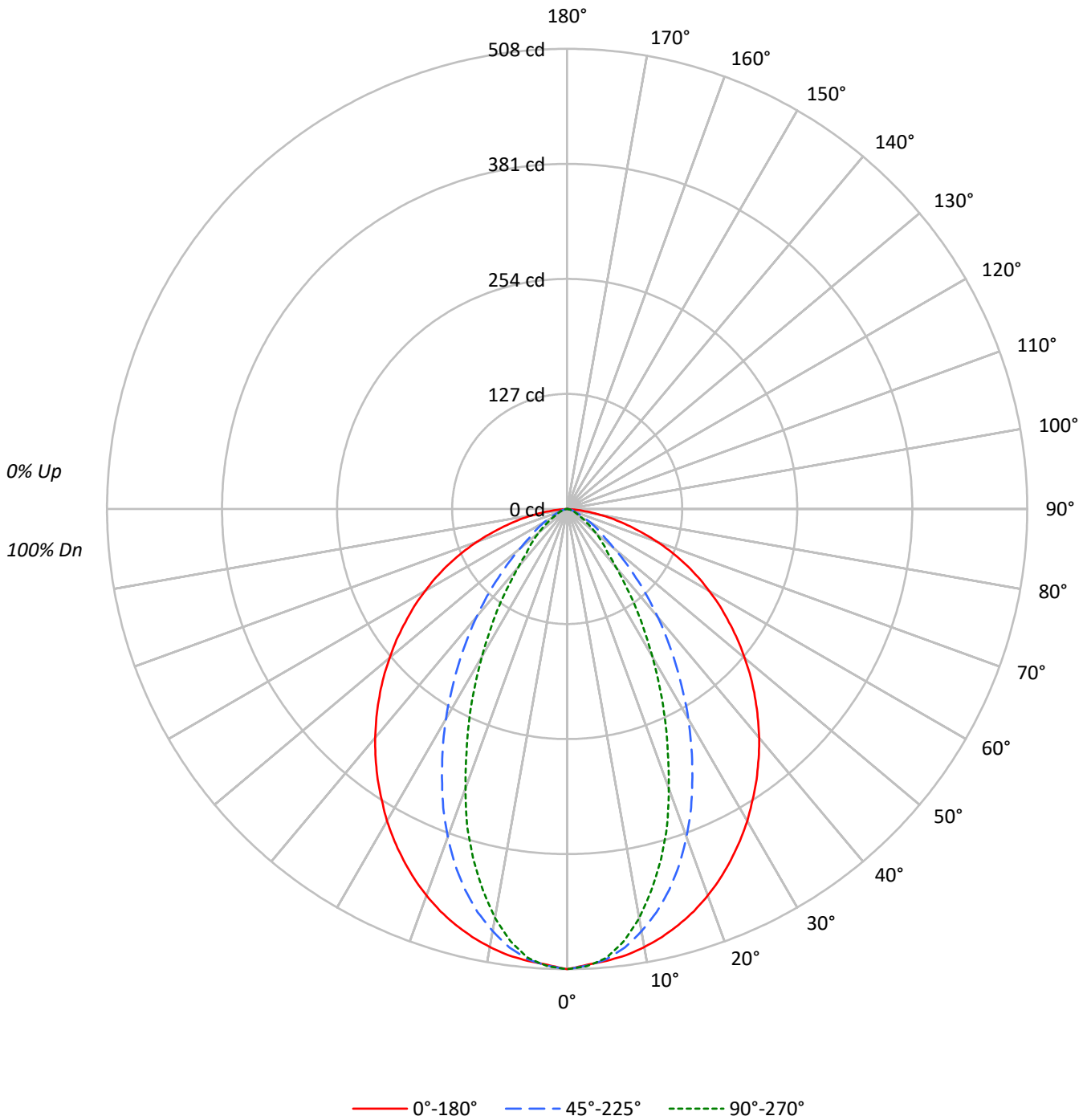
Lumens per Lamp: N/A
Luminaire Lumens: 706.5 lumens
Efficiency: N/A
Efficacy: 60.4 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6125	6125	6125
5°	6061	6038	6020
10°	6012	5794	5612
15°	5933	5433	4994
20°	5826	4942	4207
25°	5688	4350	3395
30°	5537	3727	2614
35°	5365	3076	1935
40°	5191	2447	1319
45°	4999	1831	994
50°	4796	1274	777
55°	4584	931	568
60°	4367	697	408
65°	4108	468	317
70°	3719	338	254
75°	3210	247	200
80°	2576	201	167
85°	1328	194	138

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4999 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	6.6
10°-20°	122.2	17.3
20°-30°	153.6	21.7
30°-40°	143.0	20.2
40°-50°	109.5	15.5
50°-60°	72.8	10.3
60°-70°	39.2	5.6
70°-80°	16.1	2.3
80°-90°	3.1	0.4
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°	322.8	45.7
0°-40°	465.8	65.9
0°-60°	648.1	91.7
0°-90°	706.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	706.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	508	508	508	508	508	
5°	501	506	499	497	497	48
15°	475	468	435	410	400	134
25°	428	399	327	272	255	197
35°	364	311	209	148	132	228
45°	293	217	107	63	58	226
55°	218	126	44	31	27	195
65°	144	49	16	12	11	142
75°	69	12	5	5	4	74
85°	10	1	1	1	1	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	508.0	508.0	508.0	508.0	508.0
2.5°	503.7	509.9	504.6	505.1	505.1
5°	500.8	506.1	498.9	496.9	497.4
7.5°	496.9	500.3	488.3	482.0	481.0
10°	491.1	492.1	473.3	462.3	458.4
12.5°	483.9	480.6	456.0	437.7	430.5
15°	475.3	467.6	435.3	409.8	400.1
17.5°	465.6	452.6	411.7	378.5	366.9
20°	454.1	435.8	385.2	343.8	327.9
22.5°	441.6	418.0	357.3	308.2	290.4
25°	427.6	398.7	327.0	272.5	255.2
27.5°	413.1	378.0	297.1	238.8	221.0
30°	397.7	356.8	267.7	206.1	187.8
32.5°	380.9	333.7	237.4	175.8	157.5
35°	364.5	310.6	209.0	147.8	131.5
37.5°	347.2	287.5	181.5	123.3	105.0
40°	329.8	263.9	155.5	99.2	83.8
42.5°	311.5	240.3	131.0	79.0	66.9
45°	293.2	216.7	107.4	63.1	58.3
47.5°	274.9	193.1	86.7	54.4	49.6
50°	255.7	170.5	67.9	46.2	41.4
52.5°	237.4	147.8	53.0	38.0	33.7
55°	218.1	126.2	44.3	30.8	27.0
57.5°	200.3	104.0	36.6	24.1	21.2
60°	181.1	84.3	28.9	18.8	16.9
62.5°	162.8	66.0	22.1	14.9	13.5
65°	144.0	48.6	16.4	12.0	11.1
67.5°	125.2	35.2	12.5	9.6	9.1
70°	105.5	26.5	9.6	7.7	7.2
72.5°	86.7	18.8	7.2	6.3	5.8
75°	68.9	11.6	5.3	4.8	4.3
77.5°	53.0	6.7	3.9	3.9	3.4
80°	37.1	3.9	2.9	2.9	2.4
82.5°	22.6	2.4	1.9	1.9	1.9
85°	9.6	1.4	1.4	1.4	1.0
87.5°	1.4	0.5	0.5	0.5	0.5
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	16.11	17.47	16.47	17.78	18.09	4.69	6.05	5.05	6.36	6.67
	3H	17.86	19.07	18.24	19.40	19.76	5.35	6.55	5.73	6.88	7.25
	4H	18.56	19.69	18.97	20.04	20.42	5.54	6.67	5.94	7.02	7.40
	6H	19.08	20.11	19.49	20.48	20.87	5.67	6.70	6.08	7.07	7.46
	8H	19.22	20.20	19.65	20.59	20.99	5.70	6.68	6.13	7.07	7.47
	12H	19.27	20.20	19.70	20.59	21.02	5.71	6.65	6.14	7.03	7.46
4H	2H	15.92	17.04	16.32	17.39	17.77	5.25	6.37	5.65	6.72	7.10
	3H	17.71	18.63	18.12	19.04	19.44	6.04	6.96	6.45	7.36	7.77
	4H	18.41	19.23	18.84	19.65	20.09	6.30	7.12	6.73	7.54	7.98
	6H	18.98	19.69	19.44	20.13	20.60	6.50	7.21	6.96	7.65	8.12
	8H	19.15	19.81	19.62	20.26	20.73	6.55	7.21	7.02	7.66	8.13
	12H	19.24	19.82	19.72	20.31	20.78	6.58	7.17	7.07	7.65	8.12
8H	4H	18.28	18.95	18.75	19.39	19.86	6.61	7.27	7.08	7.72	8.19
	6H	18.84	19.38	19.34	19.88	20.36	6.86	7.40	7.36	7.90	8.38
	8H	19.01	19.50	19.53	20.01	20.51	6.95	7.43	7.47	7.95	8.44
	12H	19.12	19.55	19.63	20.04	20.61	7.03	7.45	7.54	7.95	8.52
12H	4H	18.24	18.83	18.73	19.31	19.78	6.66	7.24	7.14	7.73	8.20
	6H	18.78	19.27	19.30	19.78	20.27	6.91	7.39	7.43	7.91	8.40
	8H	18.97	19.40	19.49	19.90	20.47	7.03	7.46	7.55	7.95	8.52