

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: P1055603

Luminaire Tested: S123R3DR-S340D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055603
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-S340D830-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

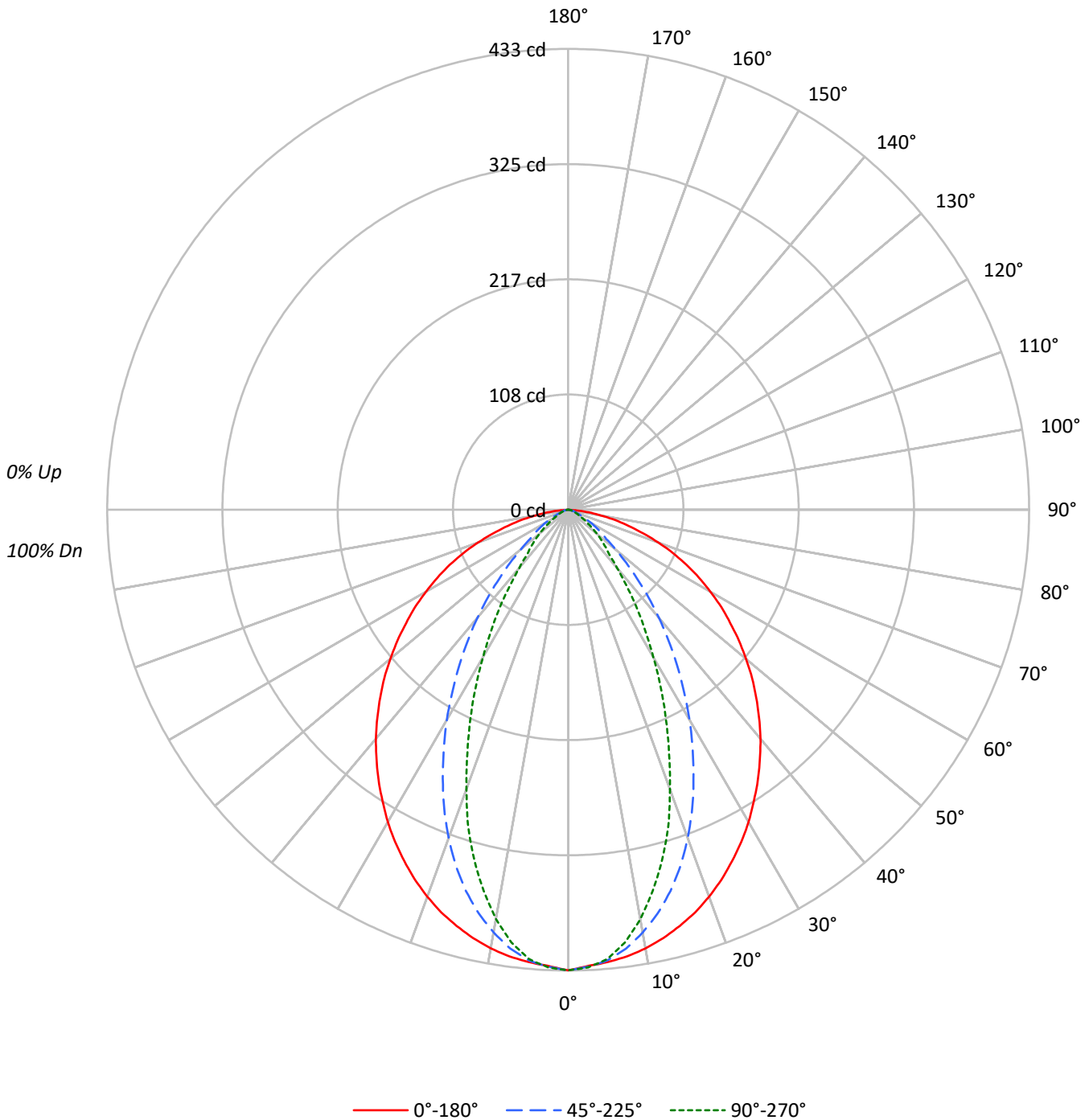
Lumens per Lamp: N/A
Luminaire Lumens: 601.9 lumens
Efficiency: N/A
Efficacy: 47.8 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
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	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	62	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°	5218	5218	5218
5°	5164	5144	5129
10°	5123	4937	4782
15°	5054	4629	4255
20°	4964	4211	3585
25°	4846	3706	2892
30°	4718	3176	2227
35°	4571	2620	1648
40°	4423	2085	1124
45°	4259	1560	846
50°	4085	1084	662
55°	3905	792	483
60°	3721	593	347
65°	3500	397	268
70°	3166	289	219
75°	2734	210	172
80°	2194	174	146
85°	1134	166	111

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4259 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	6.6
10°-20°	104.1	17.3
20°-30°	130.8	21.7
30°-40°	121.9	20.2
40°-50°	93.3	15.5
50°-60°	62.0	10.3
60°-70°	33.4	5.6
70°-80°	13.7	2.3
80°-90°	2.6	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°	275.0	45.7
0°-40°	396.9	65.9
0°-60°	552.2	91.7
0°-90°	601.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	601.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	433	433	433	433	433	
5°	427	431	425	423	424	40
15°	405	398	371	349	341	114
25°	364	340	279	232	217	168
35°	311	265	178	126	112	194
45°	250	185	92	54	50	193
55°	186	108	38	26	23	167
65°	123	41	14	10	9	121
75°	59	10	4	4	4	63
85°	8	1	1	1	1	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	432.8	432.8	432.8	432.8	432.8
2.5°	429.1	434.5	429.9	430.4	430.4
5°	426.7	431.2	425.0	423.4	423.8
7.5°	423.4	426.2	416.0	410.7	409.8
10°	418.5	419.3	403.3	393.8	390.6
12.5°	412.3	409.4	388.5	372.9	366.8
15°	404.9	398.4	370.9	349.1	340.9
17.5°	396.7	385.6	350.8	322.5	312.6
20°	386.9	371.3	328.2	292.9	279.4
22.5°	376.2	356.1	304.4	262.6	247.4
25°	364.3	339.7	278.6	232.2	217.4
27.5°	352.0	322.0	253.1	203.5	188.3
30°	338.9	304.0	228.1	175.6	160.0
32.5°	324.5	284.3	202.3	149.7	134.2
35°	310.6	264.6	178.0	125.9	112.0
37.5°	295.8	244.9	154.7	105.0	89.4
40°	281.0	224.8	132.5	84.5	71.4
42.5°	265.4	204.7	111.6	67.3	57.0
45°	249.8	184.6	91.5	53.7	49.6
47.5°	234.3	164.5	73.8	46.4	42.3
50°	217.8	145.2	57.8	39.4	35.3
52.5°	202.3	125.9	45.1	32.4	28.7
55°	185.8	107.5	37.7	26.3	23.0
57.5°	170.7	88.6	31.2	20.5	18.1
60°	154.3	71.8	24.6	16.0	14.4
62.5°	138.7	56.2	18.9	12.7	11.5
65°	122.7	41.4	13.9	10.3	9.4
67.5°	106.7	29.9	10.7	8.2	7.8
70°	89.8	22.6	8.2	6.6	6.2
72.5°	73.8	16.0	6.2	5.3	4.9
75°	58.7	9.8	4.5	4.1	3.7
77.5°	45.1	5.7	3.3	3.3	2.9
80°	31.6	3.3	2.5	2.5	2.1
82.5°	19.3	2.1	1.6	1.6	1.6
85°	8.2	1.2	1.2	1.2	0.8
87.5°	1.2	0.4	0.4	0.4	0.4
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	15.55	16.91	15.92	17.22	17.54	4.13	5.48	4.49	5.80	6.11
	3H	17.31	18.51	17.69	18.84	19.20	4.79	6.00	5.17	6.33	6.69
	4H	18.01	19.13	18.41	19.48	19.86	4.99	6.11	5.39	6.46	6.85
	6H	18.52	19.55	18.93	19.92	20.31	5.11	6.15	5.53	6.52	6.91
	8H	18.66	19.64	19.09	20.03	20.43	5.15	6.13	5.58	6.52	6.92
	12H	18.71	19.65	19.14	20.03	20.46	5.16	6.09	5.59	6.47	6.90
4H	2H	15.36	16.48	15.76	16.84	17.22	4.68	5.80	5.08	6.15	6.54
	3H	17.15	18.07	17.57	18.48	18.88	5.48	6.40	5.89	6.81	7.21
	4H	17.85	18.67	18.28	19.09	19.53	5.74	6.56	6.17	6.98	7.42
	6H	18.42	19.13	18.88	19.57	20.04	5.94	6.65	6.41	7.10	7.57
	8H	18.59	19.26	19.06	19.70	20.17	5.99	6.66	6.46	7.10	7.57
	12H	18.68	19.27	19.17	19.75	20.22	6.02	6.61	6.51	7.09	7.57
8H	4H	17.72	18.39	18.19	18.83	19.30	6.05	6.72	6.52	7.16	7.63
	6H	18.28	18.82	18.78	19.32	19.80	6.31	6.85	6.81	7.35	7.83
	8H	18.46	18.94	18.98	19.46	19.95	6.39	6.88	6.91	7.39	7.88
	12H	18.56	18.99	19.07	19.48	20.05	6.47	6.90	6.98	7.39	7.96
12H	4H	17.68	18.27	18.17	18.75	19.22	6.10	6.69	6.58	7.17	7.64
	6H	18.22	18.71	18.74	19.22	19.71	6.35	6.84	6.88	7.36	7.85
	8H	18.42	18.84	18.93	19.34	19.91	6.48	6.90	6.99	7.40	7.97