

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: P1055692

Luminaire Tested: S123R3DR-H1000D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055692
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-H1000D850-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, 80 CRI LEDS
Ballast/Driver: -

Summary

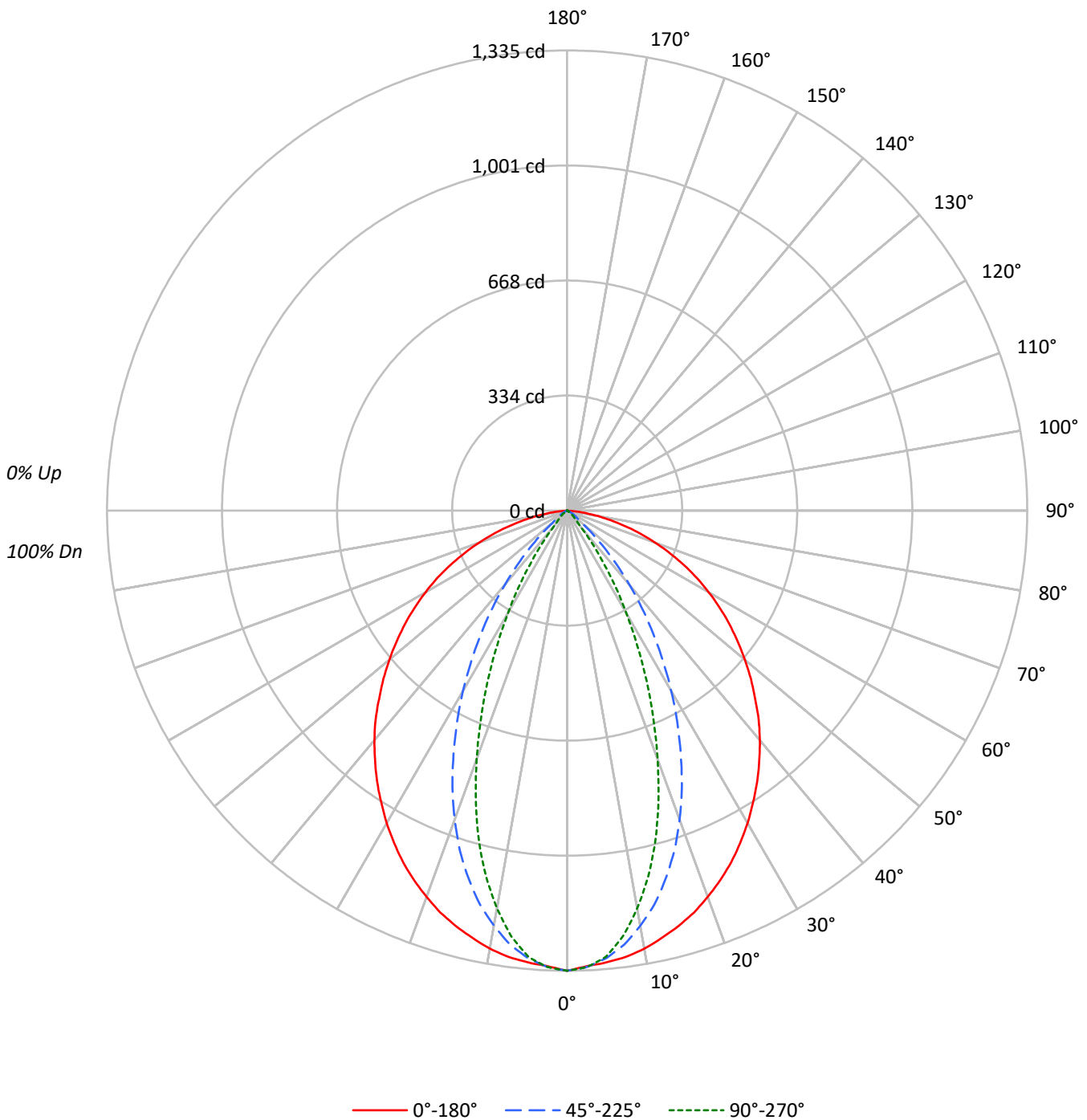
Lumens per Lamp: N/A
Luminaire Lumens: 1562.6 lumens
Efficiency: N/A
Efficacy: 50.6 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16097	16097	16097
5°	15923	15773	15722
10°	15802	14971	14344
15°	15576	13795	12361
20°	15300	12243	9845
25°	14979	10372	7259
30°	14576	8406	4763
35°	14147	6401	2610
40°	13689	4424	894
45°	13153	2575	520
50°	12625	1013	311
55°	12082	641	145
60°	11454	400	68
65°	10667	197	40
70°	9571	99	49
75°	8129	65	65
80°	6061	97	0
85°	2296	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13153 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	7.8
10°-20°	310.6	19.9
20°-30°	370.6	23.7
30°-40°	314.3	20.1
40°-50°	213.6	13.7
50°-60°	132.4	8.5
60°-70°	67.1	4.3
70°-80°	27.4	1.8
80°-90°	4.2	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°	803.6	51.4
0°-40°	1117.9	71.5
0°-60°	1464.0	93.7
0°-90°	1562.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1562.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1335	1335	1335	1335	1335	
5°	1316	1328	1303	1294	1299	125
15°	1248	1216	1105	1018	990	352
25°	1126	1021	780	602	546	518
35°	961	771	435	234	177	601
45°	771	506	151	37	30	596
55°	575	255	30	11	7	513
65°	374	62	7	1	1	369
75°	174	11	1	1	1	186
85°	17	0	0	1	0	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1335.1	1335.1	1335.1	1335.1	1335.1
2.5°	1322.6	1340.6	1325.4	1324.0	1325.4
5°	1315.7	1328.2	1303.3	1293.6	1299.1
7.5°	1306.0	1311.6	1270.0	1245.1	1245.1
10°	1290.8	1286.6	1222.9	1181.4	1171.7
12.5°	1270.0	1253.4	1170.3	1105.2	1087.2
15°	1247.9	1216.0	1105.2	1017.9	990.3
17.5°	1222.9	1174.5	1034.6	921.0	880.8
20°	1192.5	1127.4	954.2	815.7	767.3
22.5°	1160.6	1076.1	869.8	707.7	653.7
25°	1126.0	1020.7	779.7	602.5	545.7
27.5°	1087.2	962.6	691.1	501.4	439.0
30°	1047.0	901.6	603.8	404.4	342.1
32.5°	1004.1	837.9	516.6	315.8	257.6
35°	961.2	771.4	434.9	234.1	177.3
37.5°	915.5	704.9	355.9	162.0	112.2
40°	869.8	639.9	281.1	102.5	56.8
42.5°	822.7	572.0	213.3	51.2	38.8
45°	771.4	505.5	151.0	37.4	30.5
47.5°	723.0	441.8	99.7	30.5	23.5
50°	673.1	378.1	54.0	22.2	16.6
52.5°	623.2	317.2	38.8	16.6	11.1
55°	574.8	254.8	30.5	11.1	6.9
57.5°	524.9	200.8	23.5	6.9	4.2
60°	475.0	148.2	16.6	4.2	2.8
62.5°	425.2	102.5	11.1	2.8	1.4
65°	373.9	62.3	6.9	1.4	1.4
67.5°	321.3	42.9	4.2	1.4	1.4
70°	271.5	30.5	2.8	1.4	1.4
72.5°	221.6	19.4	1.4	1.4	0.0
75°	174.5	11.1	1.4	1.4	1.4
77.5°	128.8	4.2	1.4	1.4	0.0
80°	87.3	1.4	1.4	1.4	0.0
82.5°	48.5	0.0	1.4	1.4	0.0
85°	16.6	0.0	0.0	1.4	0.0
87.5°	0.0	0.0	0.0	1.4	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	18.70	19.98	19.07	20.29	20.61	0.00	0.00	0.00	0.00	0.00
	3H	20.65	21.78	21.03	22.11	22.48	0.00	0.00	0.00	0.00	0.00
	4H	21.47	22.53	21.88	22.88	23.26	0.00	0.00	0.00	0.00	0.00
	6H	22.03	23.00	22.44	23.37	23.76	0.00	0.00	0.00	0.00	0.00
	8H	22.15	23.07	22.58	23.46	23.87	0.00	0.00	0.00	0.00	0.00
	12H	22.18	23.05	22.61	23.44	23.87	0.00	0.00	0.00	0.00	0.00
4H	2H	18.46	19.52	18.87	19.87	20.26	0.00	0.00	0.00	0.00	0.00
	3H	20.42	21.28	20.83	21.68	22.09	0.00	0.00	0.00	0.00	0.00
	4H	21.23	22.00	21.67	22.42	22.87	0.00	0.00	0.00	0.00	0.00
	6H	21.83	22.50	22.30	22.94	23.41	0.00	0.00	0.00	0.00	0.00
	8H	21.99	22.60	22.46	23.05	23.52	0.00	0.00	0.00	0.00	0.00
	12H	22.03	22.58	22.52	23.06	23.54	0.00	0.00	0.00	0.00	0.00
8H	4H	21.09	21.71	21.56	22.15	22.63	0.00	0.00	0.00	0.00	0.00
	6H	21.67	22.17	22.18	22.67	23.15	0.00	0.00	0.00	0.00	0.00
	8H	21.82	22.27	22.34	22.79	23.28	0.00	0.00	0.00	0.00	0.00
	12H	21.88	22.27	22.39	22.77	23.34	0.00	0.00	0.00	0.00	0.00
12H	4H	21.04	21.58	21.53	22.07	22.54	0.00	0.00	0.00	0.00	0.00
	6H	21.61	22.06	22.13	22.57	23.07	0.00	0.00	0.00	0.00	0.00
	8H	21.78	22.17	22.29	22.67	23.24	0.00	0.00	0.00	0.00	0.00