

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: P1055557

Luminaire Tested: S123R3DR-S1000D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055557
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-S1000D850-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

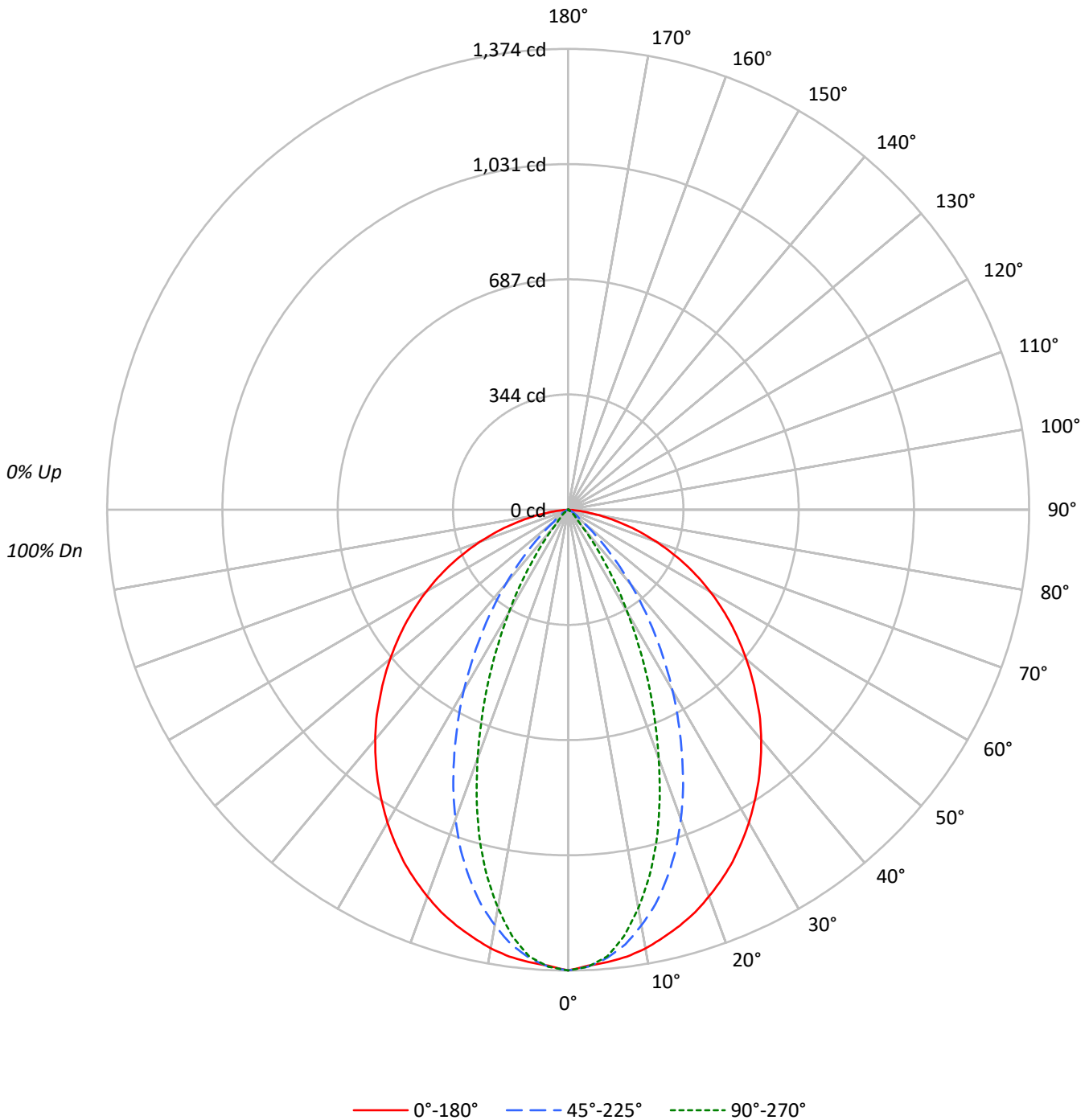
Lumens per Lamp: N/A
Luminaire Lumens: 1607.9 lumens
Efficiency: N/A
Efficacy: 46.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 34.7
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	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	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°	16563	16563	16563
5°	16386	16231	16179
10°	16260	15406	14761
15°	16027	14195	12719
20°	15743	12598	10129
25°	15413	10673	7470
30°	14999	8651	4900
35°	14556	6586	2685
40°	14086	4553	919
45°	13535	2648	535
50°	12991	1043	321
55°	12431	660	149
60°	11786	412	70
65°	10978	203	40
70°	9845	102	49
75°	8366	65	65
80°	6235	97	0
85°	2365	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13535 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.0	7.8
10°-20°	319.7	19.9
20°-30°	381.3	23.7
30°-40°	323.4	20.1
40°-50°	219.8	13.7
50°-60°	136.2	8.5
60°-70°	69.0	4.3
70°-80°	28.1	1.7
80°-90°	4.3	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°	826.9	51.4
0°-40°	1150.3	71.5
0°-60°	1506.4	93.7
0°-90°	1607.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1607.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1374	1374	1374	1374	1374	
5°	1354	1367	1341	1331	1337	128
15°	1284	1251	1137	1048	1019	362
25°	1159	1050	802	620	562	533
35°	989	794	448	241	182	618
45°	794	520	155	38	31	613
55°	591	262	31	11	7	528
65°	385	64	7	1	1	380
75°	180	11	1	1	1	191
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°	1373.8	1373.8	1373.8	1373.8	1373.8
2.5°	1361.0	1379.5	1363.9	1362.4	1363.9
5°	1353.9	1366.7	1341.1	1331.1	1336.8
7.5°	1343.9	1349.6	1306.8	1281.2	1281.2
10°	1328.2	1323.9	1258.4	1215.6	1205.7
12.5°	1306.8	1289.7	1204.2	1137.3	1118.7
15°	1284.0	1251.3	1137.3	1047.5	1019.0
17.5°	1258.4	1208.5	1064.6	947.7	906.4
20°	1227.0	1160.1	981.9	839.4	789.5
22.5°	1194.3	1107.3	895.0	728.2	672.7
25°	1158.6	1050.3	802.3	619.9	561.5
27.5°	1118.7	990.5	711.1	515.9	451.8
30°	1077.4	927.8	621.4	416.1	352.0
32.5°	1033.2	862.2	531.6	324.9	265.1
35°	989.0	793.8	447.5	240.8	182.4
37.5°	942.0	725.4	366.3	166.7	115.4
40°	895.0	658.4	289.3	105.5	58.4
42.5°	846.5	588.6	219.5	52.7	39.9
45°	793.8	520.2	155.3	38.5	31.4
47.5°	743.9	454.6	102.6	31.4	24.2
50°	692.6	389.1	55.6	22.8	17.1
52.5°	641.3	326.4	39.9	17.1	11.4
55°	591.4	262.2	31.4	11.4	7.1
57.5°	540.1	206.6	24.2	7.1	4.3
60°	488.8	152.5	17.1	4.3	2.9
62.5°	437.5	105.5	11.4	2.9	1.4
65°	384.8	64.1	7.1	1.4	1.4
67.5°	330.6	44.2	4.3	1.4	1.4
70°	279.3	31.4	2.9	1.4	1.4
72.5°	228.0	20.0	1.4	1.4	0.0
75°	179.6	11.4	1.4	1.4	1.4
77.5°	132.5	4.3	1.4	1.4	0.0
80°	89.8	1.4	1.4	1.4	0.0
82.5°	49.9	0.0	1.4	1.4	0.0
85°	17.1	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	18.80	20.08	19.16	20.39	20.71	0.00	0.00	0.00	0.00	0.00
	3H	20.75	21.88	21.13	22.21	22.58	0.00	0.00	0.00	0.00	0.00
	4H	21.57	22.63	21.98	22.98	23.36	0.00	0.00	0.00	0.00	0.00
	6H	22.13	23.10	22.54	23.47	23.86	0.00	0.00	0.00	0.00	0.00
	8H	22.25	23.17	22.68	23.56	23.97	0.00	0.00	0.00	0.00	0.00
	12H	22.28	23.15	22.71	23.54	23.97	0.00	0.00	0.00	0.00	0.00
4H	2H	18.56	19.62	18.97	19.97	20.35	0.00	0.00	0.00	0.00	0.00
	3H	20.52	21.38	20.93	21.78	22.19	0.00	0.00	0.00	0.00	0.00
	4H	21.33	22.10	21.77	22.52	22.96	0.00	0.00	0.00	0.00	0.00
	6H	21.93	22.59	22.40	23.04	23.51	0.00	0.00	0.00	0.00	0.00
	8H	22.08	22.70	22.55	23.15	23.62	0.00	0.00	0.00	0.00	0.00
	12H	22.13	22.68	22.62	23.16	23.63	0.00	0.00	0.00	0.00	0.00
8H	4H	21.19	21.81	21.66	22.25	22.73	0.00	0.00	0.00	0.00	0.00
	6H	21.77	22.27	22.27	22.77	23.25	0.00	0.00	0.00	0.00	0.00
	8H	21.92	22.37	22.44	22.89	23.38	0.00	0.00	0.00	0.00	0.00
	12H	21.98	22.37	22.49	22.87	23.44	0.00	0.00	0.00	0.00	0.00
12H	4H	21.14	21.68	21.63	22.17	22.64	0.00	0.00	0.00	0.00	0.00
	6H	21.71	22.16	22.23	22.67	23.17	0.00	0.00	0.00	0.00	0.00
	8H	21.88	22.27	22.39	22.77	23.34	0.00	0.00	0.00	0.00	0.00