

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: P1055584

Luminaire Tested: S123R3DR-S1165D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055584
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-S1165D850-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

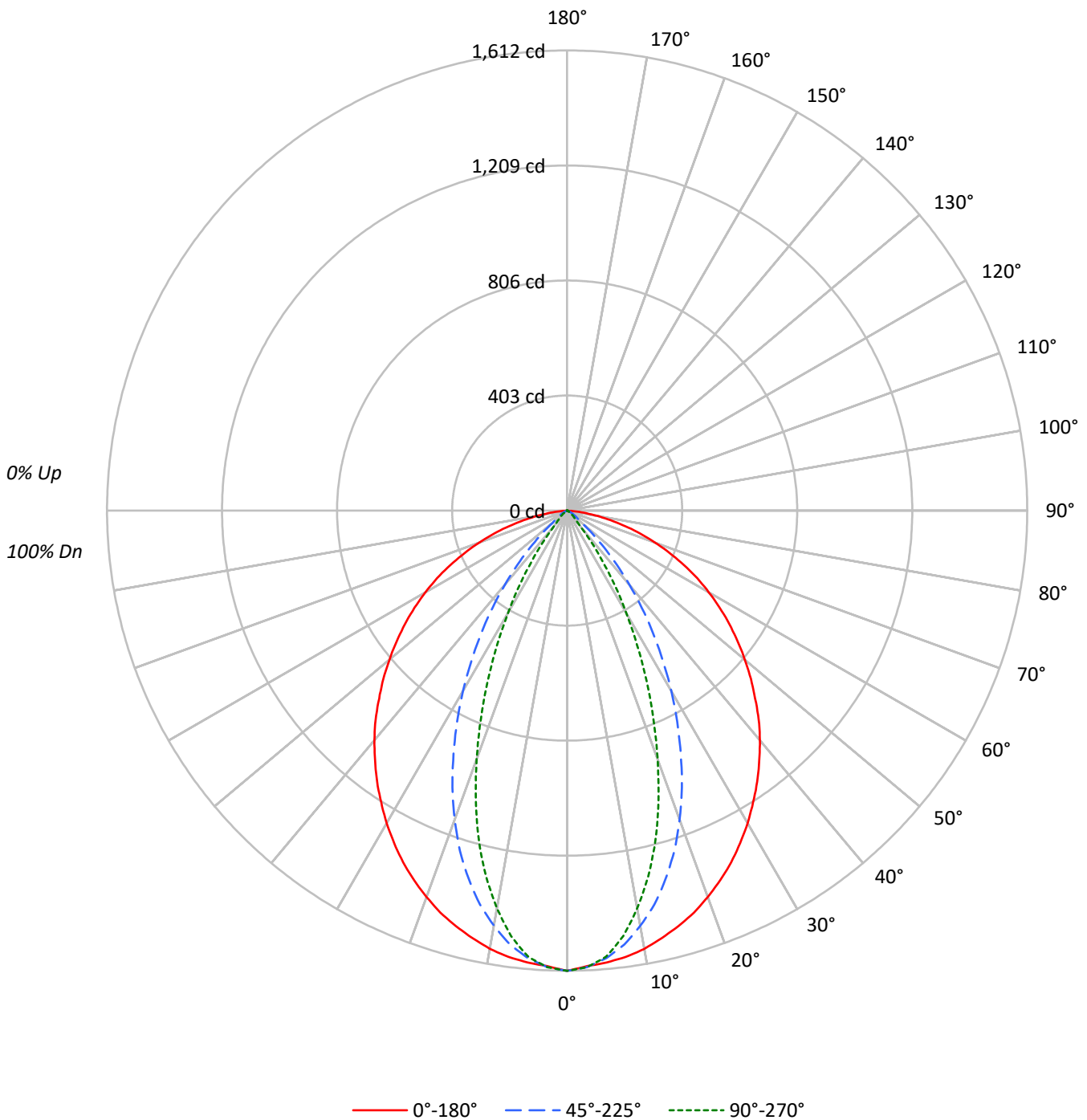
Lumens per Lamp: N/A
Luminaire Lumens: 1887.1 lumens
Efficiency: N/A
Efficacy: 45.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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	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°	19439	19439	19439
5°	19230	19048	18986
10°	19083	18081	17323
15°	18810	16659	14927
20°	18477	14785	11888
25°	18089	12526	8767
30°	17602	10152	5751
35°	17083	7730	3151
40°	16532	5343	1080
45°	15884	3108	627
50°	15247	1223	377
55°	14590	774	177
60°	13834	485	80
65°	12883	240	48
70°	11555	116	60
75°	9815	79	79
80°	7318	118	0
85°	2780	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15884 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.8	7.8
10°-20°	375.1	19.9
20°-30°	447.5	23.7
30°-40°	379.6	20.1
40°-50°	258.0	13.7
50°-60°	159.9	8.5
60°-70°	81.0	4.3
70°-80°	33.0	1.8
80°-90°	5.1	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°	970.5	51.4
0°-40°	1350.0	71.5
0°-60°	1767.9	93.7
0°-90°	1887.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1887.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1612	1612	1612	1612	1612	
5°	1589	1604	1574	1562	1569	151
15°	1507	1468	1335	1229	1196	425
25°	1360	1233	942	728	659	626
35°	1161	932	525	283	214	725
45°	932	610	182	45	37	720
55°	694	308	37	13	8	620
65°	452	75	8	2	2	446
75°	211	13	2	2	2	224
85°	20	0	0	2	0	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1612.3	1612.3	1612.3	1612.3	1612.3
2.5°	1597.3	1619.0	1600.6	1598.9	1600.6
5°	1588.9	1604.0	1573.9	1562.2	1568.8
7.5°	1577.2	1583.9	1533.7	1503.6	1503.6
10°	1558.8	1553.8	1476.9	1426.7	1415.0
12.5°	1533.7	1513.6	1413.3	1334.7	1312.9
15°	1507.0	1468.5	1334.7	1229.3	1195.9
17.5°	1476.9	1418.3	1249.4	1112.2	1063.7
20°	1440.1	1361.4	1152.4	985.1	926.6
22.5°	1401.6	1299.6	1050.4	854.7	789.4
25°	1359.8	1232.7	941.6	727.6	659.0
27.5°	1312.9	1162.4	834.6	605.5	530.2
30°	1264.4	1088.8	729.2	488.4	413.1
32.5°	1212.6	1011.9	623.9	381.3	311.1
35°	1160.7	931.6	525.2	282.7	214.1
37.5°	1105.5	851.3	429.8	195.7	135.5
40°	1050.4	772.7	339.5	123.8	68.6
42.5°	993.5	690.8	257.6	61.9	46.8
45°	931.6	610.5	182.3	45.2	36.8
47.5°	873.1	533.5	120.4	36.8	28.4
50°	812.9	456.6	65.2	26.8	20.1
52.5°	752.6	383.0	46.8	20.1	13.4
55°	694.1	307.7	36.8	13.4	8.4
57.5°	633.9	242.5	28.4	8.4	5.0
60°	573.7	179.0	20.1	5.0	3.3
62.5°	513.5	123.8	13.4	3.3	1.7
65°	451.6	75.3	8.4	1.7	1.7
67.5°	388.0	51.8	5.0	1.7	1.7
70°	327.8	36.8	3.3	1.7	1.7
72.5°	267.6	23.4	1.7	1.7	0.0
75°	210.7	13.4	1.7	1.7	1.7
77.5°	155.5	5.0	1.7	1.7	0.0
80°	105.4	1.7	1.7	1.7	0.0
82.5°	58.5	0.0	1.7	1.7	0.0
85°	20.1	0.0	0.0	1.7	0.0
87.5°	0.0	0.0	0.0	1.7	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	19.36	20.64	19.72	20.95	21.27	0.00	0.00	0.00	0.00	0.00
	3H	21.30	22.44	21.68	22.77	23.13	0.00	0.00	0.00	0.00	0.00
	4H	22.13	23.18	22.53	23.54	23.92	0.00	0.00	0.00	0.00	0.00
	6H	22.68	23.65	23.10	24.02	24.42	0.00	0.00	0.00	0.00	0.00
	8H	22.81	23.73	23.24	24.12	24.52	0.00	0.00	0.00	0.00	0.00
	12H	22.83	23.71	23.27	24.09	24.52	0.00	0.00	0.00	0.00	0.00
4H	2H	19.12	20.18	19.52	20.53	20.91	0.00	0.00	0.00	0.00	0.00
	3H	21.07	21.94	21.49	22.34	22.74	0.00	0.00	0.00	0.00	0.00
	4H	21.89	22.66	22.32	23.08	23.52	0.00	0.00	0.00	0.00	0.00
	6H	22.49	23.15	22.95	23.60	24.06	0.00	0.00	0.00	0.00	0.00
	8H	22.64	23.26	23.11	23.71	24.18	0.00	0.00	0.00	0.00	0.00
	12H	22.69	23.23	23.17	23.71	24.19	0.00	0.00	0.00	0.00	0.00
8H	4H	21.74	22.36	22.21	22.81	23.28	0.00	0.00	0.00	0.00	0.00
	6H	22.33	22.83	22.83	23.33	23.81	0.00	0.00	0.00	0.00	0.00
	8H	22.48	22.93	23.00	23.44	23.93	0.00	0.00	0.00	0.00	0.00
	12H	22.53	22.93	23.05	23.42	24.00	0.00	0.00	0.00	0.00	0.00
12H	4H	21.70	22.24	22.18	22.72	23.20	0.00	0.00	0.00	0.00	0.33
	6H	22.26	22.71	22.79	23.23	23.72	0.00	0.00	0.00	0.00	0.43
	8H	22.43	22.83	22.95	23.32	23.89	0.00	0.00	0.00	0.03	0.61