

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1059553

Luminaire Tested: S123RDR-H1165D940-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059553
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-30)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H1165D940-X4F0-XX-UDD-BVL-B
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE
LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

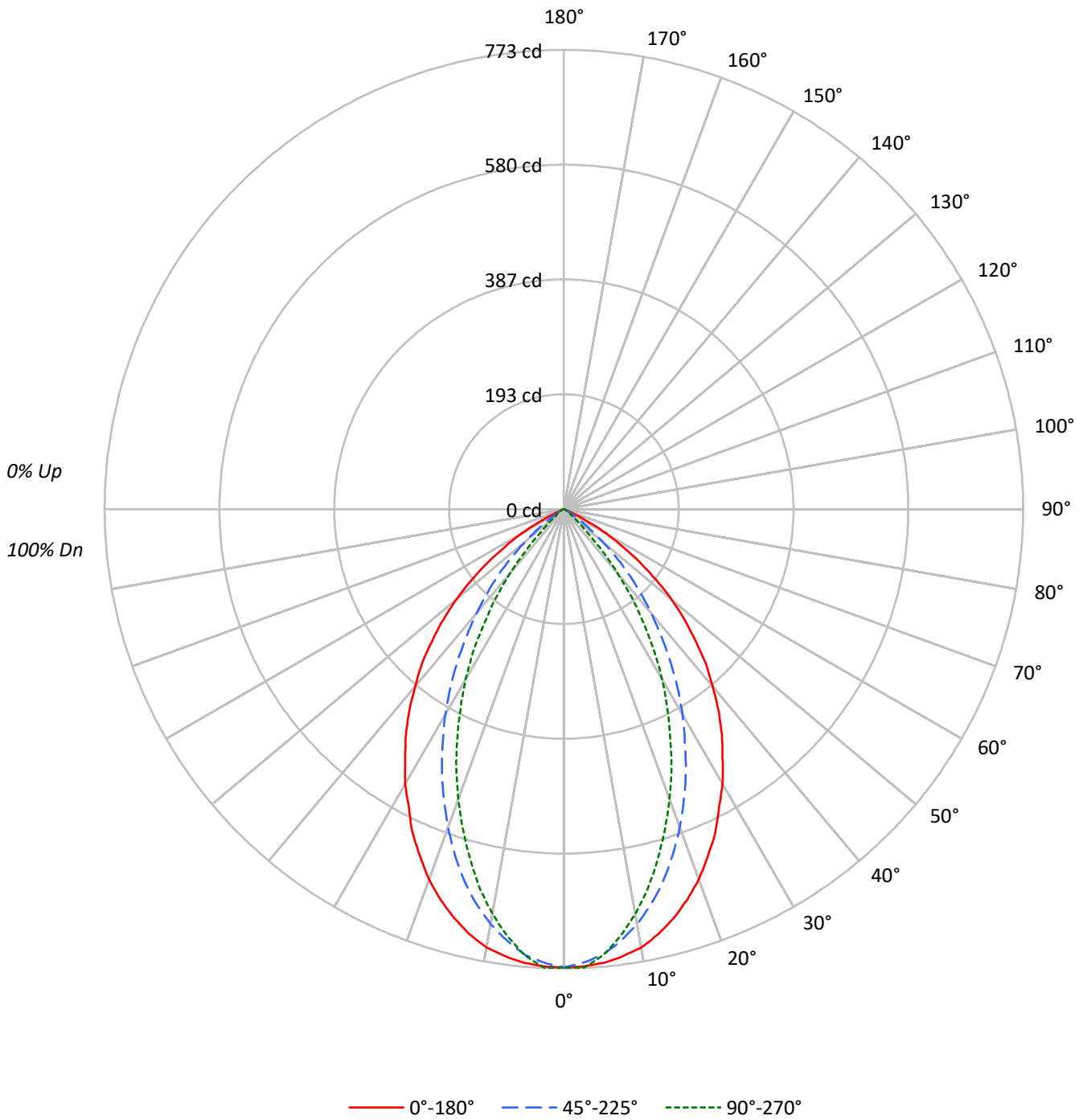
Lumens per Lamp: N/A
Luminaire Lumens: 880.4 lumens
Efficiency: N/A
Efficacy: 24.1 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 36.5
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										
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	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92						92														
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84						84														
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76						76														
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69						69														
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63						63														
6	83	73	66	61	81	72	66	61	70	65	60	69	64	60	67	63	60	58						58														
7	78	68	61	56	77	67	60	56	66	60	56	64	59	55	63	58	55	53						53														
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49						49														
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46						46														
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42						42														

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9059	9059	9059
5°	9035	8875	8889
10°	8932	8459	8251
15°	8669	7869	7416
20°	8290	7125	6489
25°	7806	6294	5488
30°	7243	5407	4481
35°	6643	4470	3330
40°	5961	3504	2132
45°	5199	2559	887
50°	4311	1520	340
55°	3179	637	254
60°	1926	233	146
65°	517	139	69
70°	0	41	41
75°	0	0	54
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5199 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.0	8.1
10°-20°	183.3	20.8
20°-30°	228.4	25.9
30°-40°	204.3	23.2
40°-50°	128.9	14.6
50°-60°	53.9	6.1
60°-70°	10.1	1.2
70°-80°	0.3	0.0
80°-90°	0.0	0.0
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°	482.8	54.8
0°-40°	687.0	78.0
0°-60°	869.9	98.8
0°-90°	880.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	880.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	772	772	772	772	772	
5°	766	765	753	755	754	73
15°	713	696	647	620	610	200
25°	602	554	486	444	424	276
35°	463	396	312	256	232	289
45°	313	244	154	82	53	241
55°	155	107	31	12	12	139
65°	19	14	5	2	2	26
75°	0	0	0	0	1	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	771.5	771.5	771.5	771.5	771.5
2.5°	770.3	771.5	764.1	771.5	772.8
5°	766.5	765.3	752.9	755.4	754.1
7.5°	759.1	755.4	733.0	728.0	725.5
10°	749.1	739.2	709.4	697.0	692.0
12.5°	733.0	719.3	680.8	660.9	653.5
15°	713.1	695.7	647.3	619.9	610.0
17.5°	689.5	664.7	610.0	580.2	565.3
20°	663.4	628.6	570.2	534.2	519.3
22.5°	632.4	593.9	528.0	489.5	473.3
25°	602.5	554.1	485.8	443.5	423.6
27.5°	565.3	514.3	441.0	397.6	376.4
30°	534.2	475.8	398.8	350.3	330.5
32.5°	496.9	436.1	355.3	301.9	283.3
35°	463.4	396.3	311.8	255.9	232.3
37.5°	427.4	357.8	268.4	210.0	187.6
40°	388.9	319.3	228.6	164.0	139.1
42.5°	354.1	280.8	188.8	121.8	96.9
45°	313.1	243.5	154.1	82.0	53.4
47.5°	275.8	208.7	116.8	46.0	28.6
50°	236.0	172.7	83.2	23.6	18.6
52.5°	195.1	137.9	54.7	16.2	14.9
55°	155.3	106.8	31.1	12.4	12.4
57.5°	116.8	77.0	16.2	9.9	8.7
60°	82.0	50.9	9.9	7.5	6.2
62.5°	47.2	29.8	7.5	5.0	5.0
65°	18.6	13.7	5.0	2.5	2.5
67.5°	1.2	3.7	2.5	1.2	1.2
70°	0.0	0.0	1.2	1.2	1.2
72.5°	0.0	0.0	1.2	1.2	1.2
75°	0.0	0.0	0.0	0.0	1.2
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	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	12.85	14.02	13.21	14.33	14.65	0.00	0.00	0.00	0.00	0.00
	3H	12.69	13.72	13.07	14.05	14.42	0.00	0.00	0.00	0.00	0.00
	4H	12.60	13.55	13.00	13.91	14.29	0.00	0.00	0.00	0.00	0.00
	6H	12.51	13.38	12.92	13.75	14.15	0.00	0.00	0.00	0.00	0.00
	8H	12.46	13.28	12.89	13.67	14.08	0.00	0.00	0.00	0.00	0.00
	12H	12.41	13.19	12.84	13.58	14.01	0.00	0.00	0.00	0.00	0.00
4H	2H	12.60	13.56	13.01	13.91	14.30	0.00	0.00	0.00	0.00	0.00
	3H	12.44	13.21	12.85	13.61	14.02	0.00	0.00	0.00	0.00	0.00
	4H	12.34	13.02	12.77	13.44	13.89	0.00	0.00	0.00	0.00	0.00
	6H	12.24	12.82	12.71	13.27	13.74	0.00	0.00	0.00	0.00	0.00
	8H	12.17	12.72	12.65	13.17	13.64	0.00	0.00	0.00	0.00	0.00
	12H	12.12	12.59	12.61	13.08	13.56	0.00	0.00	0.00	0.00	0.00
8H	4H	12.17	12.72	12.65	13.17	13.64	0.00	0.00	0.00	0.00	0.00
	6H	12.06	12.50	12.56	13.00	13.48	0.00	0.00	0.00	0.00	0.00
	8H	11.99	12.38	12.51	12.90	13.40	0.00	0.00	0.00	0.00	0.00
	12H	11.93	12.28	12.45	12.78	13.35	0.00	0.00	0.00	0.00	0.00
12H	4H	12.12	12.59	12.61	13.08	13.56	0.00	0.00	0.00	0.00	0.00
	6H	11.99	12.38	12.51	12.90	13.40	0.00	0.00	0.00	0.00	0.00
	8H	11.93	12.28	12.45	12.78	13.35	0.00	0.00	0.00	0.00	0.00