

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: P1059600

Luminaire Tested: S123RDR-H340D850-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059600
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-H340D850-X4F0-XX-UDD-BVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE
LOUVER WITH DIFFUSER
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

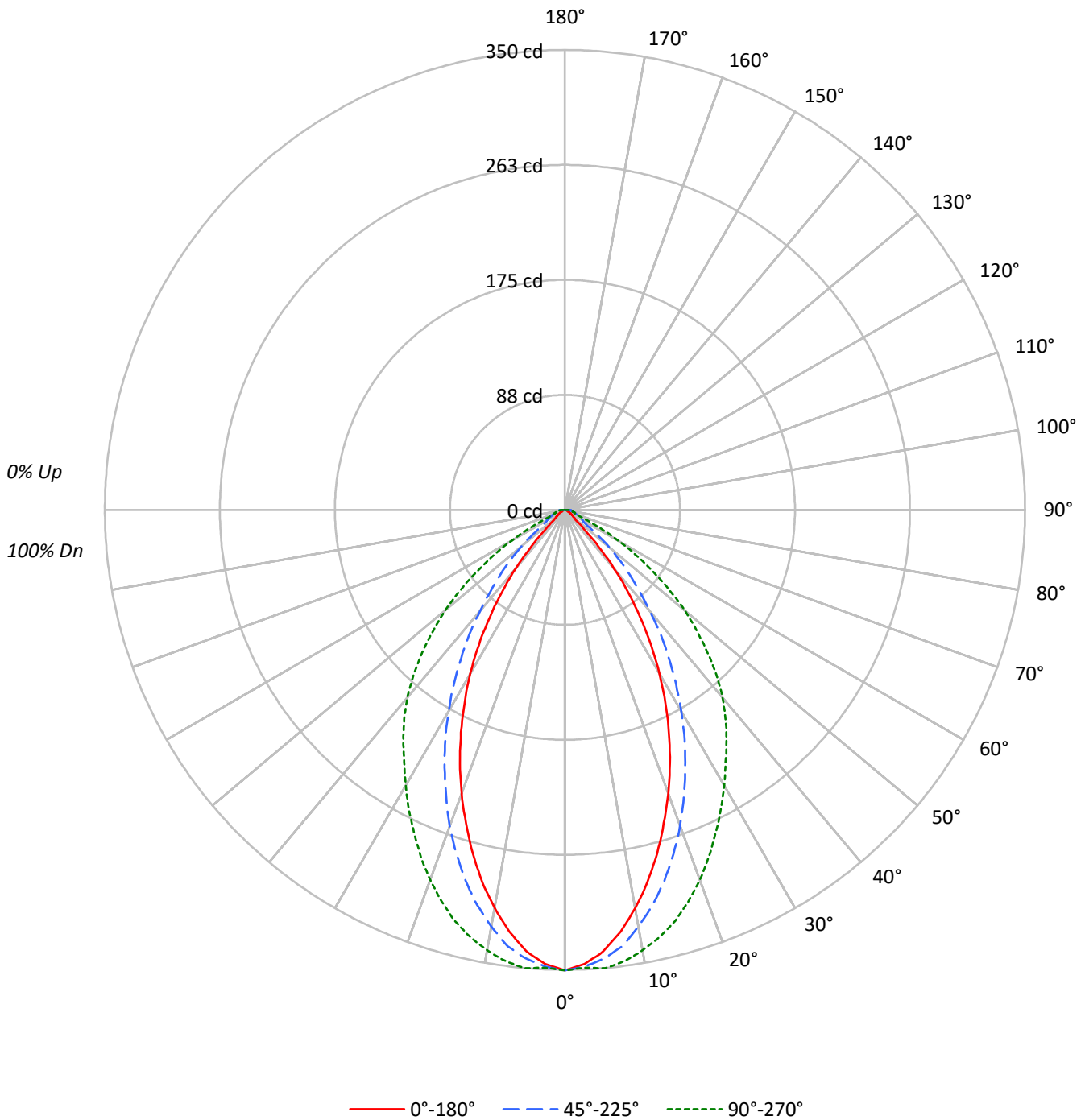
Lumens per Lamp: N/A
Luminaire Lumens: 420.8 lumens
Efficiency: N/A
Efficacy: 36.0 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90			90	
2	105	99	94	90	102	97	92	88	94	90	87	91	87	85	88	85	83	81			81	
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73			73	
4	92	83	76	71	90	81	75	70	79	74	70	77	72	69	75	71	68	66			66	
5	86	76	69	64	84	75	69	64	73	67	63	71	66	62	70	65	62	60			60	
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	57	55			55	
7	76	65	58	53	75	65	58	53	63	57	53	62	56	52	61	56	52	50			50	
8	72	61	54	49	70	60	53	49	59	53	49	58	52	48	57	52	48	47			47	
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43			43	
10	64	53	46	42	63	53	46	42	52	46	42	51	45	42	50	45	42	40			40	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4116	4116	4116
5°	3975	4040	4127
10°	3669	3839	4059
15°	3292	3550	3936
20°	2872	3200	3746
25°	2423	2805	3515
30°	1948	2399	3285
35°	1426	1974	3071
40°	889	1539	2859
45°	337	1147	2547
50°	161	791	2170
55°	123	434	1679
60°	87	369	1104
65°	64	320	461
70°	62	302	302
75°	82	313	313
80°	122	372	345
85°	243	620	498

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 2547 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.2	7.6
10°-20°	82.5	19.6
20°-30°	102.1	24.3
30°-40°	91.6	21.8
40°-50°	60.0	14.3
50°-60°	30.0	7.1
60°-70°	11.7	2.8
70°-80°	6.6	1.6
80°-90°	4.1	1.0
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°	216.8	51.5
0°-40°	308.4	73.3
0°-60°	398.5	94.7
0°-90°	420.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	420.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	350	350	350	350	350	
5°	337	343	343	346	350	31
15°	271	282	292	311	324	75
25°	187	198	216	247	271	85
35°	100	113	138	179	214	62
45°	20	33	69	118	153	19
55°	6	7	21	58	82	6
65°	2	7	12	15	17	2
75°	2	7	7	7	7	2
85°	2	5	5	5	4	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	350.5	350.5	350.5	350.5	350.5
2.5°	345.9	351.0	347.8	348.2	348.7
5°	337.2	342.7	342.7	346.4	350.1
7.5°	323.8	330.2	334.9	341.3	346.4
10°	307.7	315.5	322.0	333.5	340.4
12.5°	290.2	299.8	308.1	323.3	333.0
15°	270.8	281.9	292.0	311.4	323.8
17.5°	250.1	261.2	274.5	297.1	312.3
20°	229.8	240.9	256.1	281.4	299.8
22.5°	208.7	220.2	236.3	264.4	286.0
25°	187.0	198.5	216.5	247.3	271.3
27.5°	165.4	176.9	197.1	230.8	257.0
30°	143.7	155.2	176.9	212.8	242.3
32.5°	122.1	134.5	157.1	196.2	227.5
35°	99.5	112.8	137.7	179.2	214.2
37.5°	78.8	91.2	119.3	164.4	200.8
40°	58.0	71.4	100.4	150.2	186.5
42.5°	37.8	52.0	83.4	134.5	170.4
45°	20.3	32.7	69.1	118.4	153.4
47.5°	11.1	18.0	55.7	101.3	135.9
50°	8.8	10.1	43.3	86.6	118.8
52.5°	7.4	8.3	30.9	72.8	99.9
55°	6.0	7.4	21.2	58.0	82.0
57.5°	5.1	6.4	16.6	45.1	64.0
60°	3.7	5.5	15.7	33.2	47.0
62.5°	2.8	6.0	13.8	23.0	30.9
65°	2.3	6.9	11.5	15.2	16.6
67.5°	1.8	7.4	10.1	9.7	9.7
70°	1.8	6.9	8.8	8.3	8.8
72.5°	1.8	7.4	7.8	7.4	7.8
75°	1.8	6.9	6.9	6.9	6.9
77.5°	1.8	6.4	6.4	6.0	6.0
80°	1.8	5.5	5.5	5.5	5.1
82.5°	1.8	5.1	5.1	5.1	4.1
85°	1.8	4.6	4.6	4.6	3.7
87.5°	1.4	4.1	4.6	4.1	2.8
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	0.00	0.00	0.00	0.00	0.00	11.52	12.77	11.88	13.08	13.40
	3H	0.00	0.69	0.00	1.02	1.38	11.60	12.71	11.98	13.04	13.41
	4H	0.67	1.71	1.08	2.06	2.44	11.68	12.71	12.08	13.06	13.44
	6H	1.65	2.60	2.06	2.97	3.36	11.78	12.73	12.20	13.10	13.50
	8H	2.12	3.02	2.55	3.41	3.82	11.84	12.74	12.27	13.13	13.53
	12H	2.67	3.53	3.11	3.91	4.34	11.92	12.78	12.35	13.16	13.59
4H	2H	0.50	1.54	0.91	1.89	2.27	11.37	12.40	11.77	12.76	13.14
	3H	2.83	3.67	3.24	4.08	4.48	11.55	12.39	11.96	12.80	13.20
	4H	4.20	4.95	4.63	5.37	5.82	11.70	12.45	12.14	12.88	13.32
	6H	5.27	5.92	5.73	6.37	6.83	11.93	12.58	12.39	13.02	13.49
	8H	5.72	6.33	6.19	6.78	7.25	12.05	12.66	12.52	13.11	13.58
	12H	6.21	6.75	6.70	7.23	7.71	12.22	12.76	12.71	13.25	13.72
8H	4H	5.17	5.78	5.64	6.22	6.70	11.70	12.31	12.17	12.75	13.22
	6H	6.68	7.18	7.18	7.68	8.16	12.03	12.53	12.54	13.03	13.51
	8H	7.46	7.91	7.98	8.42	8.92	12.27	12.72	12.79	13.23	13.73
	12H	8.26	8.66	8.78	9.15	9.73	12.60	13.00	13.12	13.50	14.07
12H	4H	5.34	5.88	5.83	6.37	6.84	11.68	12.22	12.17	12.70	13.18
	6H	7.00	7.45	7.52	7.96	8.46	12.05	12.50	12.58	13.02	13.51
	8H	7.96	8.36	8.48	8.85	9.43	12.36	12.76	12.88	13.26	13.83