

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: P1059721

Luminaire Tested: S123RDR-H560D940-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059721  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2406-143-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDR-H560D940-X4F0-XX-UDD-WVL-B  
Description: DEFINE 3 BLACK REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

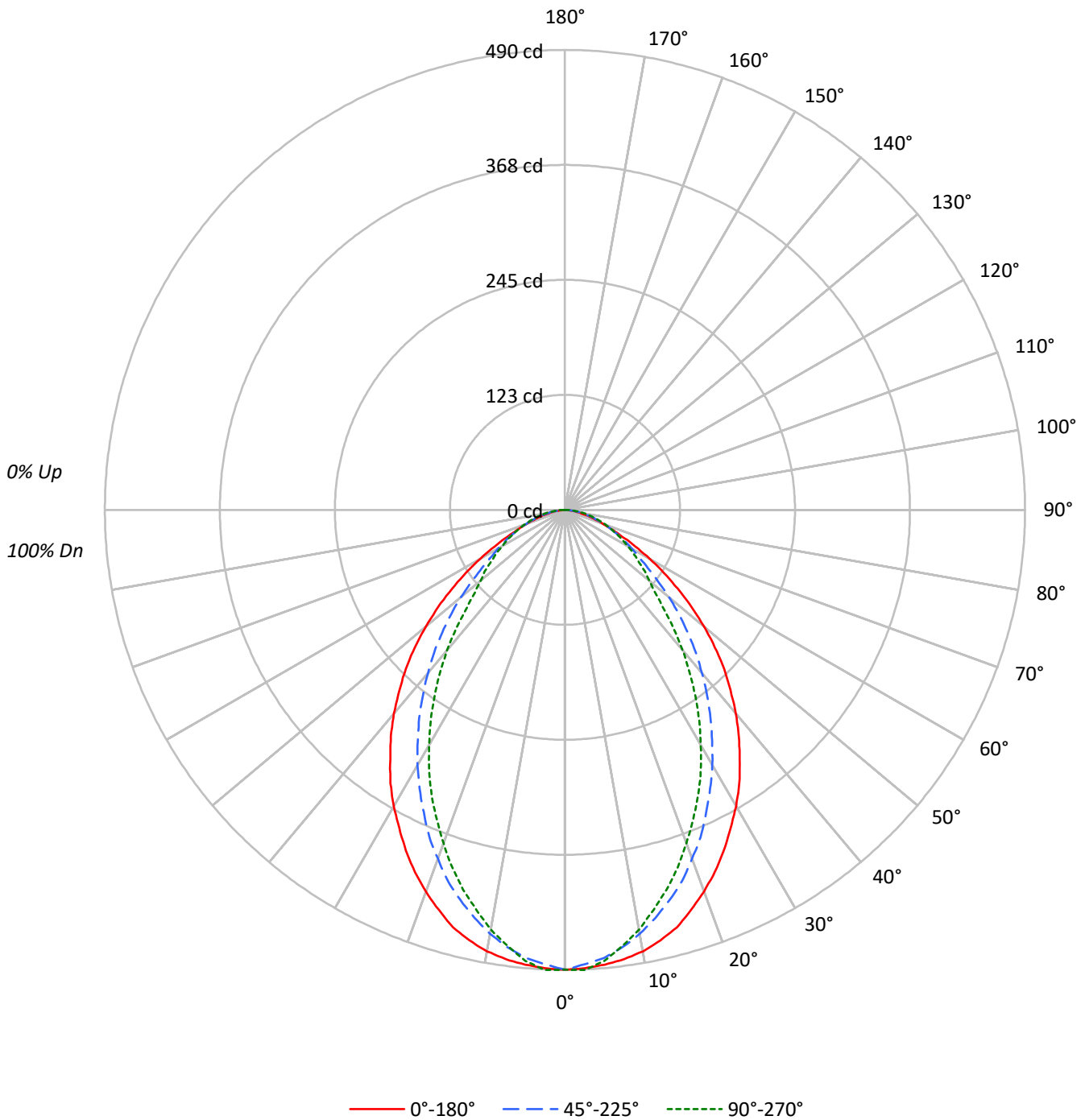
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 856.9 lumens  
Efficiency: N/A  
Efficacy: 49.2 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 0.95 / 1.09  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.4  
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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95		96	94	92		93	91	89	88
2	102	95	89	84	100	93	88	83	90	85	81		87	83	80		84	81	78	76
3	94	85	78	73	92	84	77	72	81	75	71		78	73	69		76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62		71	66	61		69	64	60	58
5	81	70	62	56	79	69	61	56	67	60	55		65	59	54		63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49		59	53	49		58	53	48	47
7	71	58	50	45	69	58	50	45	56	49	44		55	49	44		53	48	44	42
8	66	54	46	41	65	53	46	41	52	45	40		51	45	40		50	44	40	38
9	62	50	42	37	61	49	42	37	48	41	37		47	41	37		46	41	37	35
10	58	46	39	34	57	46	39	34	45	38	34		44	38	34		43	38	34	32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5753	5753	5753
5°	5733	5650	5685
10°	5695	5469	5413
15°	5598	5233	5090
20°	5408	4945	4725
25°	5188	4609	4349
30°	4942	4256	3920
35°	4652	3875	3469
40°	4341	3475	2988
45°	3981	3071	2454
50°	3528	2636	2130
55°	3001	2207	1953
60°	2447	1923	1811
65°	1864	1700	1687
70°	1456	1518	1576
75°	1175	1361	1470
80°	879	1116	1352
85°	472	714	1186

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3981 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.5	5.3
10°-20°	122.4	14.3
20°-30°	166.3	19.4
30°-40°	172.4	20.1
40°-50°	145.4	17.0
50°-60°	103.2	12.0
60°-70°	63.1	7.4
70°-80°	31.4	3.7
80°-90°	7.1	0.8
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°	334.2	39.0
0°-40°	506.6	59.1
0°-60°	755.3	88.1
0°-90°	856.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	856.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	486	486	479	482	482	46
15°	460	452	430	423	419	129
25°	400	383	356	343	336	184
35°	324	300	270	251	242	203
45°	240	214	185	160	148	184
55°	147	131	108	98	95	132
65°	67	65	61	61	61	68
75°	26	28	30	31	32	28
85°	4	4	5	8	9	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	489.9	489.9	489.9	489.9	489.9
2.5°	488.8	489.3	484.6	489.9	490.5
5°	486.4	486.4	479.3	482.3	482.3
7.5°	482.9	481.7	469.9	469.9	468.7
10°	477.6	474.0	458.7	455.8	454.0
12.5°	469.9	464.0	445.2	439.9	436.3
15°	460.5	451.7	430.5	422.8	418.7
17.5°	446.9	438.1	414.6	404.0	399.3
20°	432.8	419.9	395.7	385.1	378.1
22.5°	417.5	401.0	377.5	364.5	356.9
25°	400.4	382.8	355.7	342.7	335.7
27.5°	382.2	362.7	335.1	320.3	313.3
30°	364.5	342.1	313.9	297.4	289.1
32.5°	345.7	320.3	291.5	274.4	266.2
35°	324.5	299.7	270.3	251.4	242.0
37.5°	304.4	279.1	248.5	228.5	217.9
40°	283.2	257.9	226.7	206.1	194.9
42.5°	260.9	236.7	206.1	182.0	171.4
45°	239.7	214.3	184.9	159.6	147.8
47.5°	216.7	193.1	164.3	138.4	130.1
50°	193.1	171.4	144.3	120.7	116.6
52.5°	170.2	151.9	124.3	108.9	107.2
55°	146.6	131.3	107.8	98.3	95.4
57.5°	124.8	113.7	92.5	87.7	86.6
60°	104.2	94.8	81.9	78.9	77.1
62.5°	84.2	78.9	71.3	70.1	68.9
65°	67.1	64.8	61.2	61.2	60.7
67.5°	53.0	53.0	52.4	53.6	53.0
70°	42.4	43.0	44.2	45.3	45.9
72.5°	33.6	35.3	36.5	38.3	38.9
75°	25.9	27.7	30.0	31.2	32.4
77.5°	18.8	20.6	23.0	24.7	25.9
80°	13.0	14.1	16.5	18.8	20.0
82.5°	8.2	8.8	10.6	13.0	14.1
85°	3.5	4.1	5.3	7.7	8.8
87.5°	0.0	0.0	0.6	2.4	4.1
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	14.89	16.34	15.26	16.65	16.97	12.98	14.43	13.35	14.75	15.06
	3H	15.79	17.08	16.17	17.41	17.77	14.56	15.85	14.93	16.18	16.54
	4H	16.07	17.28	16.47	17.63	18.01	15.15	16.36	15.55	16.71	17.09
	6H	16.22	17.34	16.63	17.70	18.10	15.60	16.72	16.02	17.09	17.48
	8H	16.24	17.30	16.67	17.69	18.10	15.75	16.81	16.18	17.20	17.61
	12H	16.23	17.25	16.67	17.63	18.06	15.85	16.87	16.28	17.25	17.68
4H	2H	15.13	16.35	15.53	16.69	17.08	13.52	14.74	13.92	15.09	15.47
	3H	16.25	17.25	16.66	17.65	18.05	15.30	16.30	15.71	16.70	17.10
	4H	16.64	17.54	17.07	17.95	18.39	16.01	16.91	16.44	17.33	17.77
	6H	16.88	17.66	17.34	18.10	18.56	16.58	17.36	17.04	17.80	18.27
	8H	16.92	17.65	17.39	18.09	18.56	16.77	17.50	17.24	17.94	18.41
	12H	16.93	17.58	17.41	18.06	18.53	16.91	17.56	17.39	18.04	18.51
8H	4H	16.79	17.52	17.26	17.97	18.44	16.22	16.95	16.69	17.39	17.86
	6H	17.11	17.70	17.60	18.20	18.68	16.89	17.49	17.39	17.99	18.47
	8H	17.18	17.72	17.70	18.23	18.72	17.15	17.69	17.67	18.20	18.69
	12H	17.22	17.69	17.73	18.18	18.75	17.36	17.84	17.87	18.33	18.90
12H	4H	16.80	17.45	17.28	17.93	18.40	16.22	16.86	16.70	17.35	17.82
	6H	17.12	17.66	17.64	18.17	18.66	16.90	17.44	17.42	17.95	18.44
	8H	17.23	17.71	17.75	18.20	18.77	17.21	17.68	17.72	18.17	18.74