

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: P1059676

Luminaire Tested: S123RDR-H560D840-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059676
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-H560D840-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, 80 CRI LEDS
Ballast/Driver: -

Summary

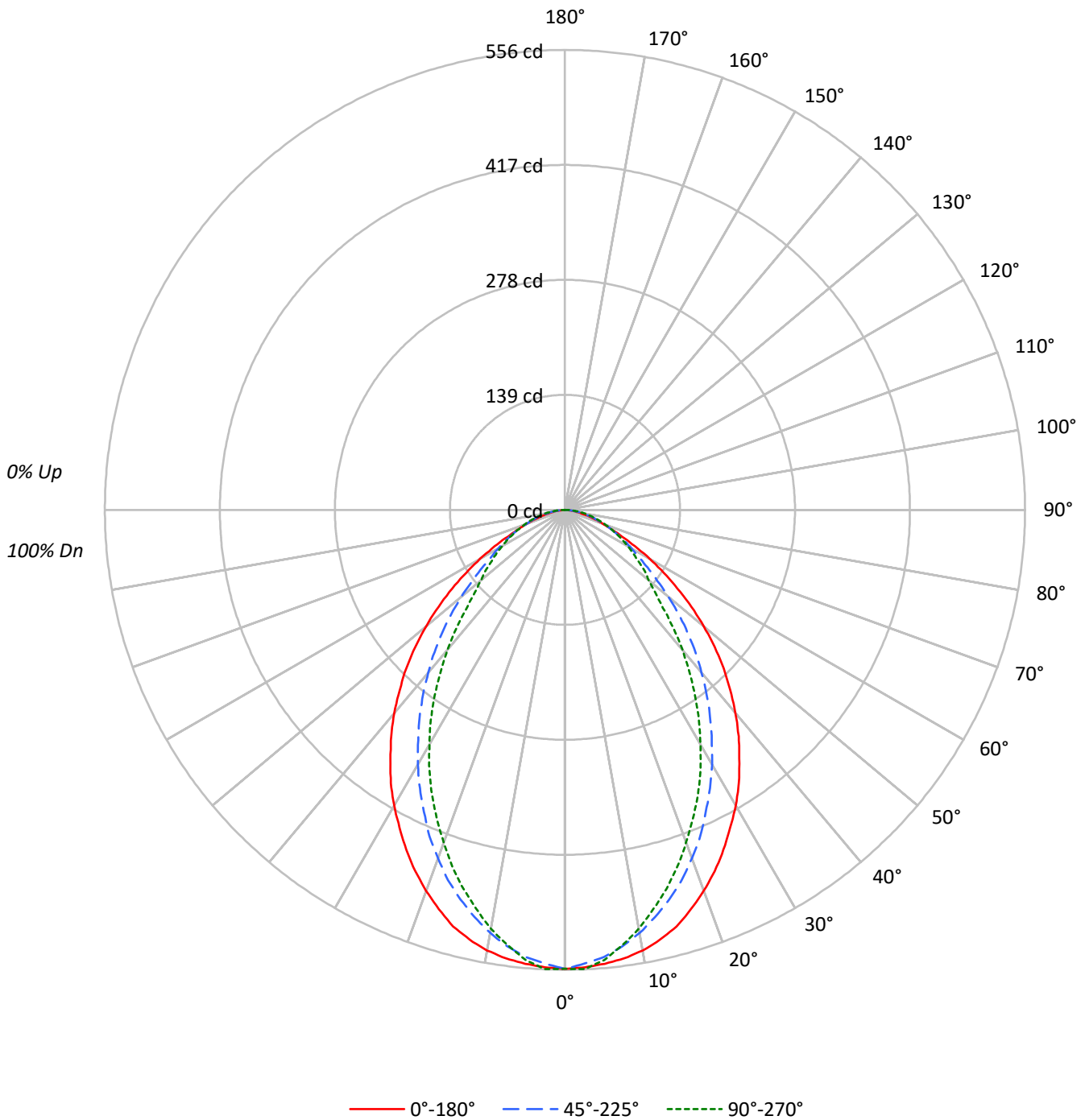
Lumens per Lamp: N/A
Luminaire Lumens: 970.5 lumens
Efficiency: N/A
Efficacy: 55.8 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 0.95 / 1.09
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

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	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°	6516	6516	6516
5°	6494	6399	6438
10°	6449	6194	6131
15°	6340	5926	5765
20°	6126	5601	5350
25°	5876	5219	4925
30°	5597	4820	4439
35°	5268	4388	3929
40°	4917	3936	3383
45°	4507	3477	2780
50°	3995	2985	2411
55°	3400	2498	2211
60°	2771	2177	2053
65°	2112	1928	1909
70°	1648	1717	1785
75°	1329	1543	1665
80°	994	1265	1535
85°	539	808	1347

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4507 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	5.3
10°-20°	138.6	14.3
20°-30°	188.4	19.4
30°-40°	195.3	20.1
40°-50°	164.7	17.0
50°-60°	116.9	12.0
60°-70°	71.5	7.4
70°-80°	35.5	3.7
80°-90°	8.1	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°	378.5	39.0
0°-40°	573.8	59.1
0°-60°	855.4	88.1
0°-90°	970.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	970.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	555	555	555	555	555	
5°	551	551	543	546	546	52
15°	522	512	488	479	474	146
25°	454	434	403	388	380	208
35°	368	339	306	285	274	230
45°	271	243	209	181	167	208
55°	166	149	122	111	108	149
65°	76	73	69	69	69	78
75°	29	31	34	35	37	32
85°	4	5	6	9	10	6
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	554.9	554.9	554.9	554.9	554.9
2.5°	553.5	554.2	548.9	554.9	555.5
5°	550.9	550.9	542.9	546.2	546.2
7.5°	546.9	545.5	532.2	532.2	530.8
10°	540.9	536.8	519.5	516.2	514.2
12.5°	532.2	525.5	504.2	498.2	494.2
15°	521.5	511.5	487.5	478.8	474.2
17.5°	506.2	496.2	469.5	457.5	452.2
20°	490.2	475.5	448.2	436.1	428.1
22.5°	472.8	454.2	427.5	412.8	404.1
25°	453.5	433.5	402.8	388.1	380.1
27.5°	432.8	410.8	379.5	362.8	354.8
30°	412.8	387.5	355.5	336.8	327.4
32.5°	391.5	362.8	330.1	310.8	301.4
35°	367.5	339.4	306.1	284.8	274.1
37.5°	344.8	316.1	281.4	258.8	246.8
40°	320.8	292.1	256.8	233.4	220.7
42.5°	295.4	268.1	233.4	206.1	194.1
45°	271.4	242.7	209.4	180.7	167.4
47.5°	245.4	218.7	186.1	156.7	147.4
50°	218.7	194.1	163.4	136.7	132.0
52.5°	192.7	172.1	140.7	123.4	121.4
55°	166.1	148.7	122.0	111.4	108.0
57.5°	141.4	128.7	104.7	99.4	98.0
60°	118.0	107.4	92.7	89.4	87.4
62.5°	95.4	89.4	80.7	79.4	78.0
65°	76.0	73.4	69.4	69.4	68.7
67.5°	60.0	60.0	59.4	60.7	60.0
70°	48.0	48.7	50.0	51.4	52.0
72.5°	38.0	40.0	41.3	43.3	44.0
75°	29.3	31.3	34.0	35.3	36.7
77.5°	21.3	23.3	26.0	28.0	29.3
80°	14.7	16.0	18.7	21.3	22.7
82.5°	9.3	10.0	12.0	14.7	16.0
85°	4.0	4.7	6.0	8.7	10.0
87.5°	0.0	0.0	0.7	2.7	4.7
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	15.32	16.77	15.69	17.08	17.40	13.42	14.87	13.78	15.18	15.50
	3H	16.22	17.51	16.60	17.84	18.20	14.99	16.29	15.37	16.62	16.98
	4H	16.50	17.71	16.90	18.06	18.44	15.59	16.80	15.99	17.15	17.53
	6H	16.65	17.77	17.06	18.13	18.53	16.04	17.15	16.45	17.52	17.91
	8H	16.67	17.73	17.10	18.12	18.53	16.19	17.25	16.61	17.64	18.04
	12H	16.67	17.68	17.10	18.06	18.49	16.28	17.30	16.72	17.68	18.11
4H	2H	15.56	16.78	15.97	17.13	17.51	13.96	15.17	14.36	15.52	15.90
	3H	16.68	17.68	17.09	18.08	18.48	15.73	16.73	16.14	17.14	17.54
	4H	17.07	17.97	17.50	18.38	18.82	16.44	17.34	16.88	17.76	18.20
	6H	17.31	18.09	17.77	18.53	18.99	17.02	17.79	17.47	18.24	18.70
	8H	17.35	18.08	17.82	18.52	18.99	17.21	17.93	17.67	18.38	18.85
	12H	17.36	18.01	17.84	18.49	18.96	17.35	17.99	17.83	18.47	18.95
8H	4H	17.22	17.95	17.69	18.40	18.87	16.65	17.38	17.12	17.83	18.29
	6H	17.54	18.13	18.04	18.63	19.11	17.33	17.93	17.83	18.42	18.90
	8H	17.61	18.15	18.13	18.66	19.15	17.59	18.12	18.10	18.63	19.12
	12H	17.65	18.12	18.16	18.61	19.18	17.80	18.27	18.31	18.76	19.33
12H	4H	17.23	17.88	17.71	18.36	18.83	16.65	17.30	17.13	17.78	18.25
	6H	17.55	18.09	18.07	18.60	19.09	17.34	17.87	17.85	18.39	18.88
	8H	17.67	18.14	18.18	18.63	19.20	17.64	18.12	18.15	18.61	19.18