

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: P1059514

Luminaire Tested: S123RDR-H1165D840-X4F0-XX-UDD-WVL-B

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059514
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-H1165D840-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

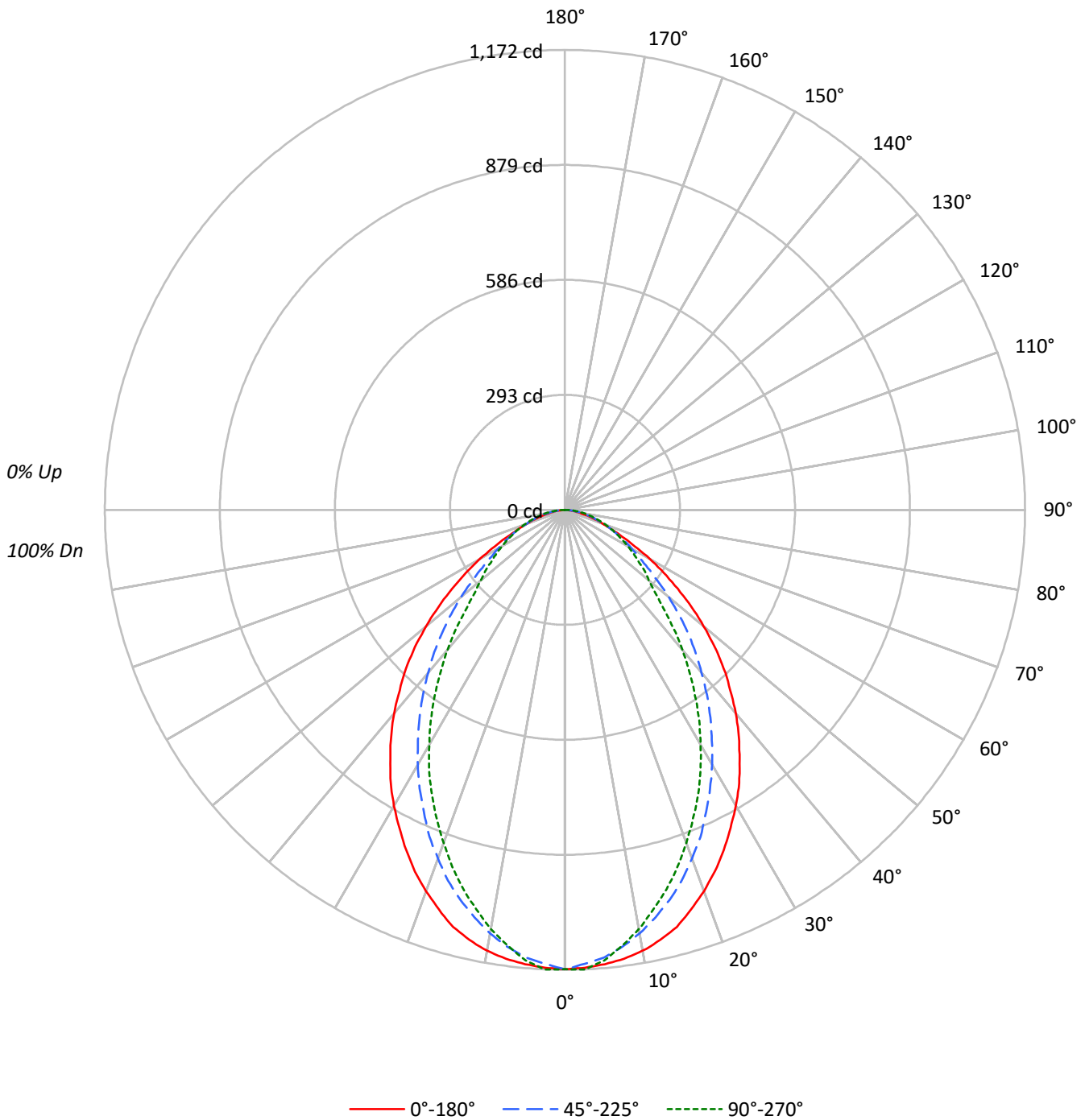
Lumens per Lamp: N/A
Luminaire Lumens: 2047.5 lumens
Efficiency: N/A
Efficacy: 56.1 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 0.95 / 1.09
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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					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°	13747	13747	13747
5°	13699	13501	13584
10°	13606	13069	12935
15°	13376	12504	12162
20°	12923	11815	11288
25°	12397	11012	10391
30°	11810	10169	9368
35°	11114	9257	8290
40°	10374	8304	7139
45°	9510	7337	5865
50°	8431	6297	5089
55°	7173	5272	4666
60°	5850	4594	4328
65°	4457	4065	4026
70°	3478	3622	3770
75°	2808	3258	3512
80°	2096	2664	3232
85°	1132	1711	2843

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9510 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.7	5.3
10°-20°	292.4	14.3
20°-30°	397.5	19.4
30°-40°	412.0	20.1
40°-50°	347.5	17.0
50°-60°	246.7	12.0
60°-70°	150.7	7.4
70°-80°	75.0	3.7
80°-90°	17.0	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°	798.5	39.0
0°-40°	1210.5	59.1
0°-60°	1804.7	88.1
0°-90°	2047.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2047.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1171	1171	1171	1171	1171	
5°	1162	1162	1145	1152	1152	110
15°	1100	1079	1029	1010	1000	309
25°	957	915	850	819	802	440
35°	775	716	646	601	578	485
45°	573	512	442	381	353	440
55°	350	314	258	235	228	315
65°	160	155	146	146	145	164
75°	62	66	72	75	77	67
85°	8	10	13	18	21	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1170.7	1170.7	1170.7	1170.7	1170.7
2.5°	1167.9	1169.3	1158.0	1170.7	1172.1
5°	1162.2	1162.2	1145.4	1152.4	1152.4
7.5°	1153.8	1151.0	1122.8	1122.8	1120.0
10°	1141.1	1132.7	1096.1	1089.1	1084.8
12.5°	1122.8	1108.8	1063.7	1051.1	1042.6
15°	1100.3	1079.2	1028.6	1010.3	1000.4
17.5°	1068.0	1046.9	990.6	965.2	954.0
20°	1034.2	1003.2	945.5	920.2	903.3
22.5°	997.6	958.2	901.9	871.0	852.7
25°	956.8	914.6	849.9	818.9	802.0
27.5°	913.2	866.8	800.6	765.4	748.6
30°	871.0	817.5	750.0	710.6	690.9
32.5°	825.9	765.4	696.5	655.7	636.0
35°	775.3	716.2	645.8	600.8	578.3
37.5°	727.5	667.0	593.8	545.9	520.6
40°	676.8	616.3	541.7	492.5	465.7
42.5°	623.3	565.6	492.5	434.8	409.5
45°	572.7	512.2	441.8	381.3	353.2
47.5°	517.8	461.5	392.6	330.7	311.0
50°	461.5	409.5	344.7	288.4	278.6
52.5°	406.6	363.0	296.9	260.3	256.1
55°	350.4	313.8	257.5	235.0	227.9
57.5°	298.3	271.6	220.9	209.7	206.8
60°	249.1	226.5	195.6	188.5	184.3
62.5°	201.2	188.5	170.3	167.4	164.6
65°	160.4	154.8	146.3	146.3	144.9
67.5°	126.6	126.6	125.2	128.0	126.6
70°	101.3	102.7	105.5	108.3	109.8
72.5°	80.2	84.4	87.2	91.5	92.9
75°	61.9	66.1	71.8	74.6	77.4
77.5°	45.0	49.2	54.9	59.1	61.9
80°	31.0	33.8	39.4	45.0	47.8
82.5°	19.7	21.1	25.3	31.0	33.8
85°	8.4	9.8	12.7	18.3	21.1
87.5°	0.0	0.0	1.4	5.6	9.8
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	17.92	19.37	18.28	19.68	19.99	16.01	17.46	16.38	17.78	18.09
	3H	18.81	20.11	19.19	20.44	20.80	17.58	18.88	17.96	19.21	19.57
	4H	19.09	20.31	19.50	20.66	21.04	18.18	19.39	18.58	19.74	20.12
	6H	19.24	20.36	19.66	20.73	21.12	18.63	19.75	19.04	20.12	20.51
	8H	19.27	20.33	19.69	20.72	21.12	18.78	19.84	19.21	20.23	20.64
	12H	19.26	20.28	19.69	20.66	21.09	18.88	19.90	19.31	20.28	20.71
4H	2H	18.16	19.37	18.56	19.72	20.10	16.55	17.77	16.95	18.11	18.50
	3H	19.27	20.27	19.68	20.67	21.08	18.33	19.33	18.74	19.73	20.13
	4H	19.66	20.56	20.10	20.98	21.42	19.04	19.94	19.47	20.35	20.79
	6H	19.90	20.68	20.36	21.13	21.59	19.61	20.39	20.07	20.83	21.29
	8H	19.95	20.67	20.41	21.12	21.59	19.80	20.53	20.27	20.97	21.44
	12H	19.95	20.60	20.44	21.08	21.55	19.94	20.59	20.42	21.07	21.54
8H	4H	19.82	20.55	20.28	20.99	21.46	19.25	19.98	19.71	20.42	20.89
	6H	20.13	20.73	20.63	21.22	21.70	19.92	20.52	20.42	21.01	21.49
	8H	20.21	20.75	20.73	21.26	21.75	20.18	20.72	20.70	21.23	21.72
	12H	20.24	20.72	20.75	21.21	21.78	20.39	20.86	20.90	21.36	21.92
12H	4H	19.82	20.47	20.31	20.95	21.42	19.25	19.89	19.73	20.37	20.85
	6H	20.15	20.68	20.66	21.20	21.69	19.93	20.47	20.45	20.98	21.47
	8H	20.26	20.74	20.77	21.23	21.80	20.24	20.71	20.75	21.20	21.77