

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: P1059517

Luminaire Tested: S123RDR-H1165D850-X4F0-XX-UDD-BVL-B

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1059517  
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-H1165D850-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: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

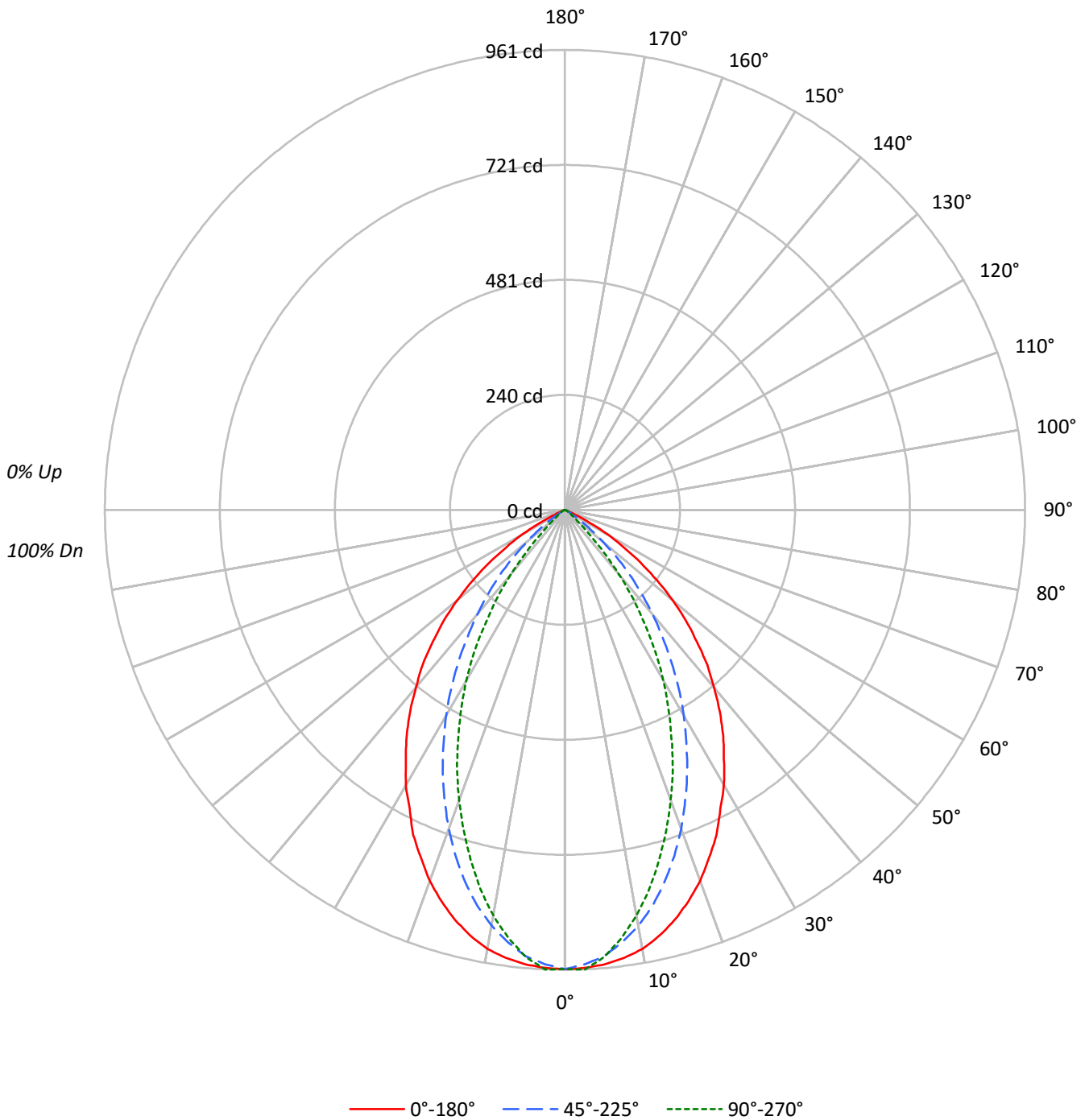
Lumens per Lamp: N/A  
Luminaire Lumens: 1094.9 lumens  
Efficiency: N/A  
Efficacy: 30.0 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 0.81 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct

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

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

	0°	45°	90°
0°	11267	11267	11267
5°	11237	11036	11055
10°	11109	10520	10261
15°	10782	9786	9222
20°	10310	8862	8071
25°	9709	7827	6827
30°	9009	6725	5573
35°	8261	5559	4141
40°	7413	4358	2653
45°	6466	3182	1103
50°	5363	1891	424
55°	3953	790	317
60°	2395	291	181
65°	645	172	86
70°	0	51	51
75°	0	0	68
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6466 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.3	8.1
10°-20°	228.0	20.8
20°-30°	284.1	25.9
30°-40°	254.0	23.2
40°-50°	160.3	14.6
50°-60°	67.1	6.1
60°-70°	12.6	1.2
70°-80°	0.4	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°	600.4	54.8
0°-40°	854.4	78.0
0°-60°	1081.9	98.8
0°-90°	1094.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1094.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	960	960	960	960	960	
5°	953	952	936	939	938	90
15°	887	865	805	771	759	249
25°	749	689	604	552	527	343
35°	576	493	388	318	289	359
45°	389	303	192	102	66	300
55°	193	133	39	16	16	173
65°	23	17	6	3	3	33
75°	0	0	0	0	2	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°	959.5	959.5	959.5	959.5	959.5
2.5°	958.0	959.5	950.2	959.5	961.1
5°	953.3	951.8	936.3	939.4	937.9
7.5°	944.1	939.4	911.6	905.4	902.3
10°	931.7	919.3	882.3	866.8	860.6
12.5°	911.6	894.6	846.7	822.0	812.7
15°	886.9	865.3	805.0	771.0	758.6
17.5°	857.5	826.6	758.6	721.6	703.0
20°	825.1	781.8	709.2	664.4	645.9
22.5°	786.5	738.6	656.7	608.8	588.7
25°	749.4	689.1	604.1	551.6	526.9
27.5°	703.0	639.7	548.5	494.4	468.2
30°	664.4	591.8	496.0	435.7	411.0
32.5°	618.0	542.3	441.9	375.5	352.3
35°	576.3	492.9	387.8	318.3	288.9
37.5°	531.5	445.0	333.7	261.1	233.3
40°	483.6	397.1	284.3	204.0	173.1
42.5°	440.4	349.2	234.9	151.4	120.5
45°	389.4	302.8	191.6	102.0	66.4
47.5°	343.0	259.6	145.2	57.2	35.5
50°	293.6	214.8	103.5	29.4	23.2
52.5°	242.6	171.5	68.0	20.1	18.5
55°	193.1	132.9	38.6	15.5	15.5
57.5°	145.2	95.8	20.1	12.4	10.8
60°	102.0	63.3	12.4	9.3	7.7
62.5°	58.7	37.1	9.3	6.2	6.2
65°	23.2	17.0	6.2	3.1	3.1
67.5°	1.5	4.6	3.1	1.5	1.5
70°	0.0	0.0	1.5	1.5	1.5
72.5°	0.0	0.0	1.5	1.5	1.5
75°	0.0	0.0	0.0	0.0	1.5
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	13.60	14.78	13.97	15.09	15.41	0.00	0.00	0.00	0.14	0.46
	3H	13.44	14.48	13.83	14.81	15.17	0.00	0.00	0.00	0.00	0.33
	4H	13.36	14.31	13.76	14.67	15.05	0.00	0.00	0.00	0.00	0.27
	6H	13.27	14.14	13.68	14.51	14.91	0.00	0.00	0.00	0.00	0.13
	8H	13.22	14.04	13.65	14.43	14.84	0.00	0.00	0.00	0.00	0.06
	12H	13.17	13.95	13.60	14.33	14.77	0.00	0.00	0.00	0.00	0.00
4H	2H	13.36	14.32	13.77	14.67	15.06	0.00	0.00	0.00	0.17	0.56
	3H	13.20	13.97	13.61	14.37	14.78	0.00	0.00	0.00	0.02	0.42
	4H	13.09	13.78	13.53	14.20	14.64	0.00	0.00	0.00	0.00	0.35
	6H	13.00	13.58	13.47	14.03	14.50	0.00	0.00	0.00	0.00	0.21
	8H	12.93	13.48	13.41	13.93	14.40	0.00	0.00	0.00	0.00	0.10
	12H	12.88	13.35	13.36	13.84	14.31	0.00	0.00	0.00	0.00	0.02
8H	4H	12.93	13.48	13.41	13.93	14.40	0.00	0.00	0.00	0.00	0.11
	6H	12.82	13.26	13.32	13.76	14.24	0.00	0.00	0.00	0.00	0.00
	8H	12.74	13.14	13.27	13.66	14.15	0.00	0.00	0.00	0.00	0.00
	12H	12.69	13.04	13.21	13.54	14.11	0.00	0.00	0.00	0.00	0.00
12H	4H	12.88	13.35	13.36	13.84	14.31	0.00	0.00	0.00	0.00	0.02
	6H	12.74	13.14	13.27	13.66	14.15	0.00	0.00	0.00	0.00	0.00
	8H	12.69	13.04	13.21	13.54	14.11	0.00	0.00	0.00	0.00	0.00