

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: P1059523

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

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2019
Report Number: P1059523
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-H1165D850-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: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

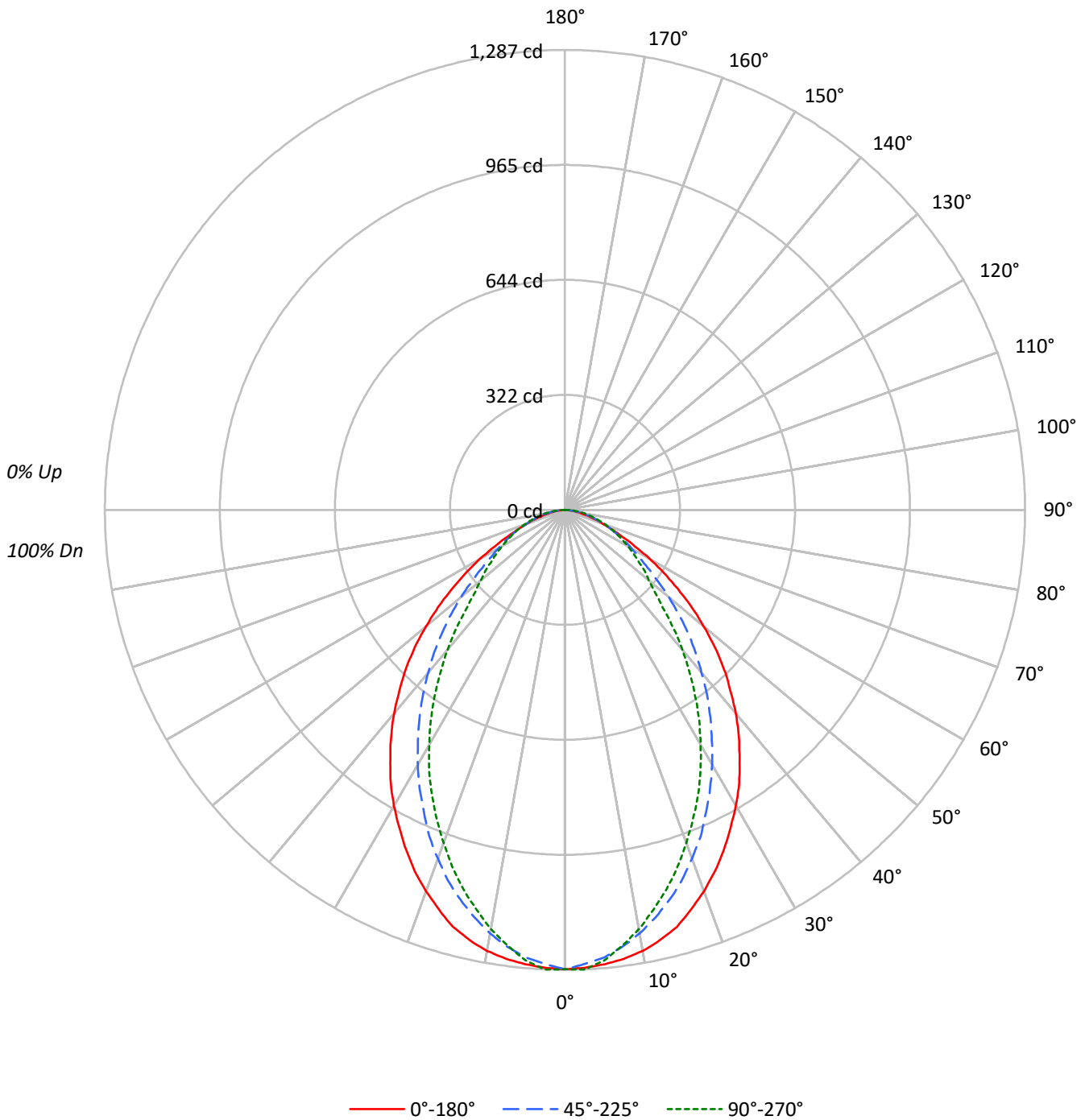
Lumens per Lamp: N/A
Luminaire Lumens: 2248.5 lumens
Efficiency: N/A
Efficacy: 61.6 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 0.95 / 1.09
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

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	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°	15096	15096	15096
5°	15044	14826	14917
10°	14943	14352	14205
15°	14689	13731	13355
20°	14192	12976	12396
25°	13613	12092	11412
30°	12969	11167	10287
35°	12205	10166	9104
40°	11392	9119	7841
45°	10444	8057	6440
50°	9258	6916	5588
55°	7878	5790	5124
60°	6423	5045	4753
65°	4896	4465	4423
70°	3821	3979	4137
75°	3085	3575	3856
80°	2299	2928	3550
85°	1253	1873	3126

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10444 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.3	5.3
10°-20°	321.1	14.3
20°-30°	436.5	19.4
30°-40°	452.5	20.1
40°-50°	381.6	17.0
50°-60°	270.9	12.0
60°-70°	165.6	7.4
70°-80°	82.4	3.7
80°-90°	18.7	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°	876.9	39.0
0°-40°	1329.4	59.1
0°-60°	1981.9	88.1
0°-90°	2248.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2248.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1286	1286	1286	1286	1286	
5°	1276	1276	1258	1266	1266	121
15°	1208	1185	1130	1109	1099	339
25°	1051	1004	933	899	881	483
35°	851	786	709	660	635	532
45°	629	562	485	419	388	483
55°	385	345	283	258	250	345
65°	176	170	161	161	159	180
75°	68	73	79	82	85	73
85°	9	11	14	20	23	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1285.6	1285.6	1285.6	1285.6	1285.6
2.5°	1282.5	1284.1	1271.7	1285.6	1287.1
5°	1276.3	1276.3	1257.8	1265.5	1265.5
7.5°	1267.1	1264.0	1233.1	1233.1	1230.0
10°	1253.2	1243.9	1203.7	1196.0	1191.3
12.5°	1233.1	1217.6	1168.2	1154.3	1145.0
15°	1208.3	1185.2	1129.5	1109.4	1098.6
17.5°	1172.8	1149.6	1087.8	1060.0	1047.6
20°	1135.7	1101.7	1038.4	1010.6	992.0
22.5°	1095.5	1052.3	990.5	956.5	936.4
25°	1050.7	1004.4	933.3	899.3	880.8
27.5°	1002.8	951.8	879.2	840.6	822.0
30°	956.5	897.8	823.6	780.3	758.7
32.5°	907.0	840.6	764.9	720.1	698.4
35°	851.4	786.5	709.2	659.8	635.1
37.5°	798.9	732.4	652.1	599.5	571.7
40°	743.2	676.8	594.9	540.8	511.5
42.5°	684.5	621.2	540.8	477.5	449.7
45°	628.9	562.5	485.2	418.7	387.8
47.5°	568.6	506.8	431.1	363.1	341.5
50°	506.8	449.7	378.6	316.8	305.9
52.5°	446.6	398.7	326.0	285.9	281.2
55°	384.8	344.6	282.8	258.0	250.3
57.5°	327.6	298.2	242.6	230.2	227.1
60°	273.5	248.8	214.8	207.1	202.4
62.5°	221.0	207.1	187.0	183.9	180.8
65°	176.2	170.0	160.7	160.7	159.2
67.5°	139.1	139.1	137.5	140.6	139.1
70°	111.3	112.8	115.9	119.0	120.5
72.5°	88.1	92.7	95.8	100.4	102.0
75°	68.0	72.6	78.8	81.9	85.0
77.5°	49.4	54.1	60.3	64.9	68.0
80°	34.0	37.1	43.3	49.4	52.5
82.5°	21.6	23.2	27.8	34.0	37.1
85°	9.3	10.8	13.9	20.1	23.2
87.5°	0.0	0.0	1.5	6.2	10.8
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	18.24	19.69	18.60	20.00	20.32	16.34	17.79	16.70	18.10	18.41
	3H	19.14	20.43	19.52	20.76	21.12	17.91	19.20	18.29	19.53	19.90
	4H	19.42	20.63	19.82	20.98	21.36	18.50	19.72	18.91	20.07	20.45
	6H	19.57	20.69	19.98	21.05	21.45	18.96	20.07	19.37	20.44	20.83
	8H	19.59	20.65	20.02	21.04	21.45	19.10	20.17	19.53	20.56	20.96
	12H	19.59	20.60	20.02	20.98	21.41	19.20	20.22	19.63	20.60	21.03
4H	2H	18.48	19.70	18.88	20.05	20.43	16.88	18.09	17.28	18.44	18.82
	3H	19.60	20.60	20.01	21.00	21.40	18.65	19.65	19.06	20.05	20.46
	4H	19.99	20.89	20.42	21.30	21.74	19.36	20.26	19.80	20.68	21.12
	6H	20.23	21.01	20.69	21.45	21.91	19.93	20.71	20.39	21.16	21.62
	8H	20.27	21.00	20.74	21.44	21.91	20.13	20.85	20.59	21.30	21.77
	12H	20.28	20.93	20.76	21.41	21.88	20.27	20.91	20.75	21.39	21.86
8H	4H	20.15	20.87	20.61	21.32	21.79	19.57	20.30	20.04	20.75	21.21
	6H	20.46	21.06	20.96	21.55	22.03	20.25	20.85	20.75	21.34	21.82
	8H	20.53	21.07	21.05	21.58	22.07	20.51	21.04	21.02	21.55	22.04
	12H	20.57	21.04	21.08	21.54	22.10	20.71	21.19	21.23	21.68	22.25
12H	4H	20.15	20.80	20.63	21.28	21.75	19.57	20.22	20.05	20.70	21.17
	6H	20.47	21.01	20.99	21.52	22.01	20.26	20.79	20.77	21.31	21.80
	8H	20.59	21.06	21.10	21.55	22.12	20.56	21.03	21.07	21.53	22.09