

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1439959

Luminaire Tested: S124DR-S485D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439959
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-S485D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

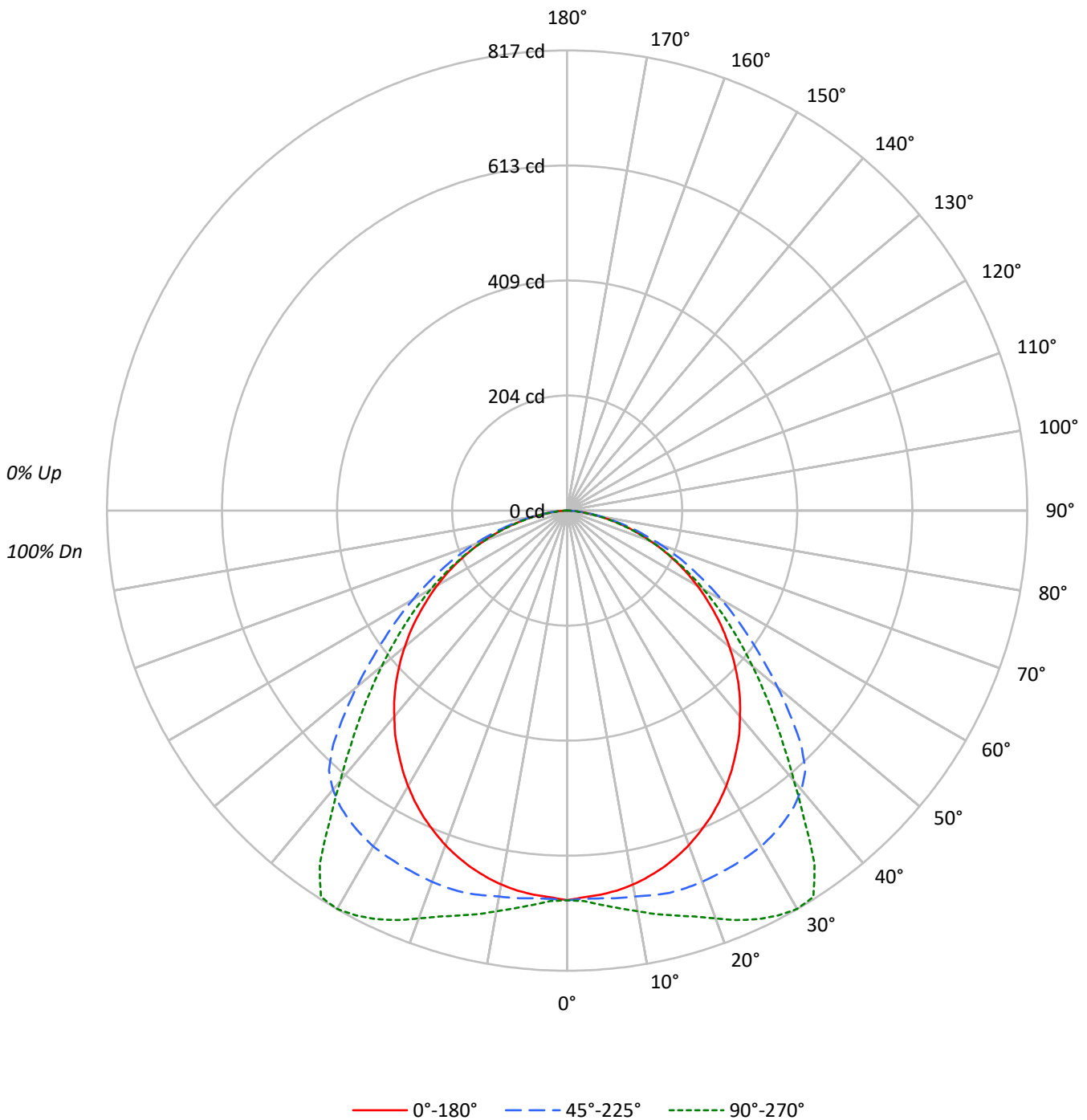
Lumens per Lamp: N/A
Luminaire Lumens: 2102.5 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
Input Voltage (V): 120
Input Current (A_{in}): 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

TEST NUMBER: P1439959

CATALOG NUMBER: S124DR-S485D835-X4F0-XX-UDD-FLB-W

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				100
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85				85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71				71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60				60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52				52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47	45				45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39				39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35				35
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33	31				31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28				28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25				25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6116	6116	6116
5°	6074	6134	6237
10°	6053	6248	6486
15°	6009	6432	6811
20°	5947	6598	7250
25°	5868	6789	7809
30°	5767	7028	8338
35°	5643	7262	8266
40°	5509	7467	7232
45°	5365	7343	6503
50°	5173	6705	5912
55°	4960	6101	5400
60°	4718	5595	4946
65°	4431	5098	4517
70°	4053	4563	4038
75°	3573	3918	3501
80°	2938	3147	2836
85°	2069	2130	1927

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 7343 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.4	3.2
10°-20°	198.9	9.5
20°-30°	323.8	15.4
30°-40°	411.2	19.6
40°-50°	400.7	19.1
50°-60°	328.5	15.6
60°-70°	229.2	10.9
70°-80°	117.6	5.6
80°-90°	26.1	1.2
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°	589.1	28.0
0°-40°	1000.3	47.6
0°-60°	1729.6	82.3
0°-90°	2102.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2102.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	692	692	692	692	692	
5°	684	694	691	696	703	65
15°	656	677	703	730	744	185
25°	602	640	696	768	800	277
35°	523	574	673	771	766	327
45°	429	482	587	538	520	331
55°	322	371	396	362	350	288
65°	212	242	244	224	216	210
75°	105	116	115	107	102	111
85°	20	21	21	20	19	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	691.8	691.8	691.8	691.8	691.8
2.5°	687.1	695.9	689.8	692.5	693.9
5°	684.4	694.5	691.1	695.9	702.7
7.5°	680.3	691.8	693.9	703.4	712.2
10°	674.2	687.8	695.9	712.2	722.4
12.5°	666.0	683.0	699.3	721.7	733.9
15°	656.5	676.9	702.7	730.5	744.1
17.5°	645.0	669.4	702.7	737.3	755.6
20°	632.1	660.6	701.3	746.1	770.6
22.5°	617.1	651.1	698.6	756.3	786.9
25°	601.5	640.2	695.9	767.9	800.5
27.5°	583.9	627.3	692.5	776.7	810.6
30°	564.9	611.7	688.4	780.8	816.7
32.5°	544.5	593.4	681.6	780.8	813.4
35°	522.8	573.7	672.8	770.6	765.8
37.5°	501.7	552.6	662.0	721.0	691.1
40°	477.3	530.2	647.0	651.1	626.6
42.5°	454.2	506.5	626.0	592.0	570.3
45°	429.1	482.0	587.3	538.4	520.1
47.5°	403.3	455.6	537.0	490.2	473.2
50°	376.1	429.1	487.5	444.7	429.8
52.5°	349.6	400.6	439.9	402.6	388.3
55°	321.8	371.4	395.8	362.5	350.3
57.5°	294.0	341.5	355.8	325.2	313.7
60°	266.8	309.6	316.4	289.9	279.7
62.5°	239.7	276.3	279.0	256.0	247.1
65°	211.8	242.4	243.7	224.0	215.9
67.5°	184.7	209.8	209.8	192.8	186.0
70°	156.8	177.9	176.5	162.9	156.2
72.5°	130.4	145.3	143.9	133.7	129.0
75°	104.6	116.1	114.7	106.6	102.5
77.5°	80.1	88.3	86.9	81.5	78.1
80°	57.7	62.5	61.8	57.7	55.7
82.5°	38.0	40.7	39.4	36.7	35.3
85°	20.4	21.0	21.0	19.7	19.0
87.5°	7.5	7.5	7.5	7.5	6.8
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	17.98	19.58	18.34	19.89	20.20	17.76	19.36	18.13	19.67	19.99
	3H	19.48	20.92	19.86	21.25	21.61	19.23	20.67	19.61	21.00	21.36
	4H	19.98	21.34	20.38	21.68	22.06	19.73	21.08	20.13	21.43	21.81
	6H	20.30	21.56	20.71	21.92	22.31	20.04	21.30	20.46	21.66	22.05
	8H	20.39	21.58	20.81	21.97	22.37	20.12	21.31	20.55	21.70	22.10
	12H	20.43	21.57	20.85	21.95	22.38	20.15	21.30	20.58	21.68	22.11
4H	2H	18.60	19.95	19.00	20.30	20.68	18.43	19.78	18.83	20.13	20.51
	3H	20.33	21.46	20.74	21.85	22.25	20.10	21.22	20.51	21.62	22.02
	4H	20.96	21.97	21.39	22.39	22.82	20.69	21.71	21.12	22.12	22.56
	6H	21.38	22.27	21.84	22.71	23.17	21.11	21.99	21.56	22.43	22.89
	8H	21.50	22.32	21.96	22.77	23.23	21.21	22.04	21.67	22.48	22.95
	12H	21.56	22.30	22.04	22.78	23.25	21.27	22.01	21.75	22.49	22.96
8H	4H	21.20	22.03	21.66	22.47	22.93	20.97	21.79	21.43	22.24	22.70
	6H	21.72	22.41	22.22	22.90	23.37	21.47	22.15	21.96	22.64	23.12
	8H	21.89	22.50	22.40	23.01	23.50	21.61	22.23	22.13	22.74	23.22
	12H	22.00	22.54	22.50	23.03	23.59	21.71	22.26	22.22	22.75	23.31
12H	4H	21.21	21.95	21.69	22.43	22.90	20.98	21.73	21.46	22.20	22.67
	6H	21.74	22.36	22.25	22.87	23.35	21.50	22.11	22.01	22.62	23.11
	8H	21.95	22.50	22.46	22.99	23.55	21.69	22.23	22.20	22.72	23.29