

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: P1439915

Luminaire Tested: S124DR-H485D840-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439915
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-H485D840-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

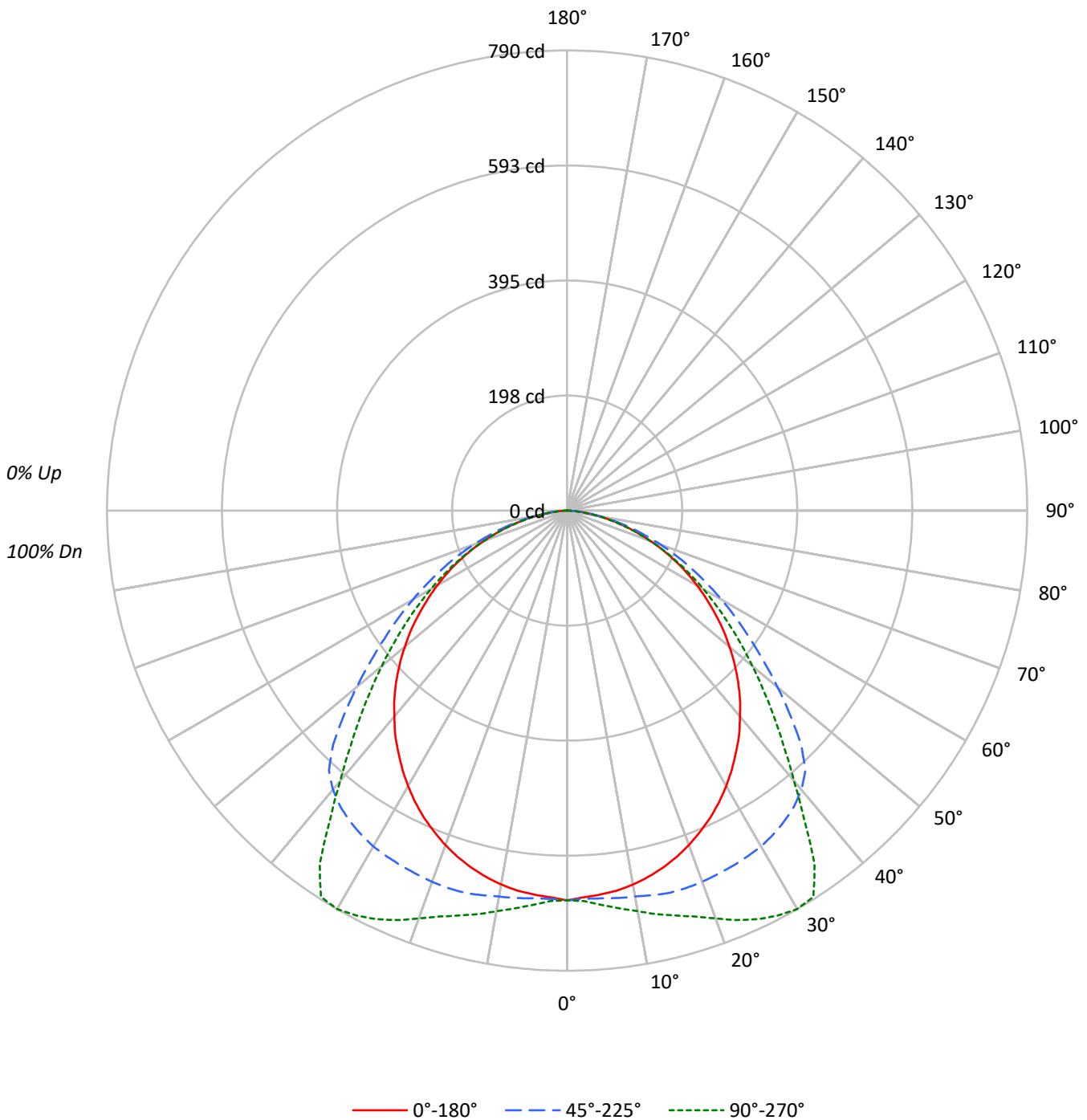
Lumens per Lamp: N/A
Luminaire Lumens: 2033.1 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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	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°	5915	5915	5915
5°	5873	5931	6031
10°	5853	6041	6271
15°	5810	6220	6586
20°	5751	6380	7010
25°	5674	6564	7551
30°	5576	6796	8063
35°	5456	7022	7992
40°	5326	7220	6993
45°	5188	7101	6288
50°	5003	6484	5716
55°	4797	5899	5221
60°	4562	5409	4783
65°	4285	4931	4368
70°	3919	4413	3903
75°	3454	3788	3385
80°	2841	3040	2739
85°	1998	2069	1867

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 7101 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.2	3.2
10°-20°	192.4	9.5
20°-30°	313.1	15.4
30°-40°	397.6	19.6
40°-50°	387.5	19.1
50°-60°	317.7	15.6
60°-70°	221.7	10.9
70°-80°	113.7	5.6
80°-90°	25.2	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°	569.7	28.0
0°-40°	967.3	47.6
0°-60°	1672.4	82.3
0°-90°	2033.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2033.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	669	669	669	669	669	
5°	662	672	668	673	680	63
15°	635	654	680	706	720	179
25°	582	619	673	742	774	268
35°	506	555	651	745	740	316
45°	415	466	568	521	503	320
55°	311	359	383	351	339	278
65°	205	234	236	217	209	203
75°	101	112	111	103	99	108
85°	20	20	20	19	18	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	669.0	669.0	669.0	669.0	669.0
2.5°	664.4	672.9	667.0	669.6	670.9
5°	661.7	671.6	668.3	672.9	679.5
7.5°	657.8	669.0	670.9	680.1	688.7
10°	651.9	665.0	672.9	688.7	698.5
12.5°	644.0	660.4	676.2	697.8	709.7
15°	634.8	654.5	679.5	706.4	719.5
17.5°	623.7	647.3	679.5	712.9	730.7
20°	611.2	638.8	678.1	721.5	745.1
22.5°	596.7	629.6	675.5	731.3	760.9
25°	581.6	619.1	672.9	742.5	774.0
27.5°	564.6	606.6	669.6	751.0	783.8
30°	546.2	591.5	665.7	755.0	789.8
32.5°	526.5	573.8	659.1	755.0	786.5
35°	505.5	554.7	650.6	745.1	740.5
37.5°	485.1	534.4	640.1	697.2	668.3
40°	461.5	512.7	625.6	629.6	605.9
42.5°	439.2	489.7	605.3	572.5	551.4
45°	414.9	466.1	567.9	520.6	502.9
47.5°	390.0	440.5	519.3	474.0	457.6
50°	363.7	414.9	471.4	430.0	415.6
52.5°	338.1	387.3	425.4	389.3	375.5
55°	311.2	359.1	382.7	350.6	338.7
57.5°	284.3	330.2	344.0	314.5	303.3
60°	258.0	299.4	305.9	280.3	270.5
62.5°	231.7	267.2	269.8	247.5	239.0
65°	204.8	234.4	235.7	216.6	208.8
67.5°	178.6	202.9	202.9	186.4	179.9
70°	151.6	172.0	170.7	157.6	151.0
72.5°	126.0	140.5	139.2	129.3	124.7
75°	101.1	112.3	110.9	103.1	99.1
77.5°	77.5	85.3	84.0	78.8	75.5
80°	55.8	60.4	59.7	55.8	53.8
82.5°	36.8	39.4	38.1	35.5	34.1
85°	19.7	20.4	20.4	19.0	18.4
87.5°	7.2	7.2	7.2	7.2	6.6
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	17.86	19.46	18.22	19.77	20.09	17.64	19.24	18.01	19.56	19.87
	3H	19.36	20.80	19.74	21.13	21.49	19.12	20.56	19.49	20.88	21.24
	4H	19.87	21.22	20.26	21.57	21.94	19.61	20.96	20.01	21.31	21.69
	6H	20.19	21.44	20.60	21.80	22.20	19.93	21.18	20.34	21.54	21.94
	8H	20.27	21.46	20.69	21.85	22.25	20.00	21.20	20.43	21.59	21.99
	12H	20.31	21.45	20.74	21.83	22.26	20.04	21.18	20.47	21.56	21.99
4H	2H	18.48	19.83	18.88	20.18	20.56	18.31	19.67	18.71	20.01	20.39
	3H	20.21	21.34	20.62	21.74	22.14	19.98	21.11	20.39	21.51	21.91
	4H	20.84	21.86	21.27	22.27	22.71	20.58	21.59	21.01	22.01	22.44
	6H	21.27	22.15	21.72	22.59	23.05	20.99	21.88	21.44	22.32	22.77
	8H	21.38	22.21	21.84	22.65	23.12	21.09	21.92	21.55	22.36	22.83
	12H	21.44	22.19	21.93	22.66	23.13	21.15	21.89	21.63	22.37	22.84
8H	4H	21.08	21.91	21.54	22.35	22.82	20.85	21.68	21.31	22.12	22.59
	6H	21.60	22.29	22.10	22.78	23.26	21.35	22.04	21.84	22.52	23.00
	8H	21.77	22.38	22.28	22.89	23.38	21.50	22.11	22.01	22.62	23.11
	12H	21.88	22.42	22.39	22.91	23.48	21.60	22.14	22.10	22.63	23.19
12H	4H	21.09	21.83	21.57	22.31	22.78	20.87	21.61	21.35	22.09	22.56
	6H	21.63	22.24	22.14	22.75	23.24	21.38	22.00	21.89	22.50	22.99
	8H	21.84	22.38	22.34	22.87	23.43	21.57	22.12	22.08	22.61	23.17