

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: P931184

Luminaire Tested: DFN2DS-SQ4F0-120DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931184
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-120DS930-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

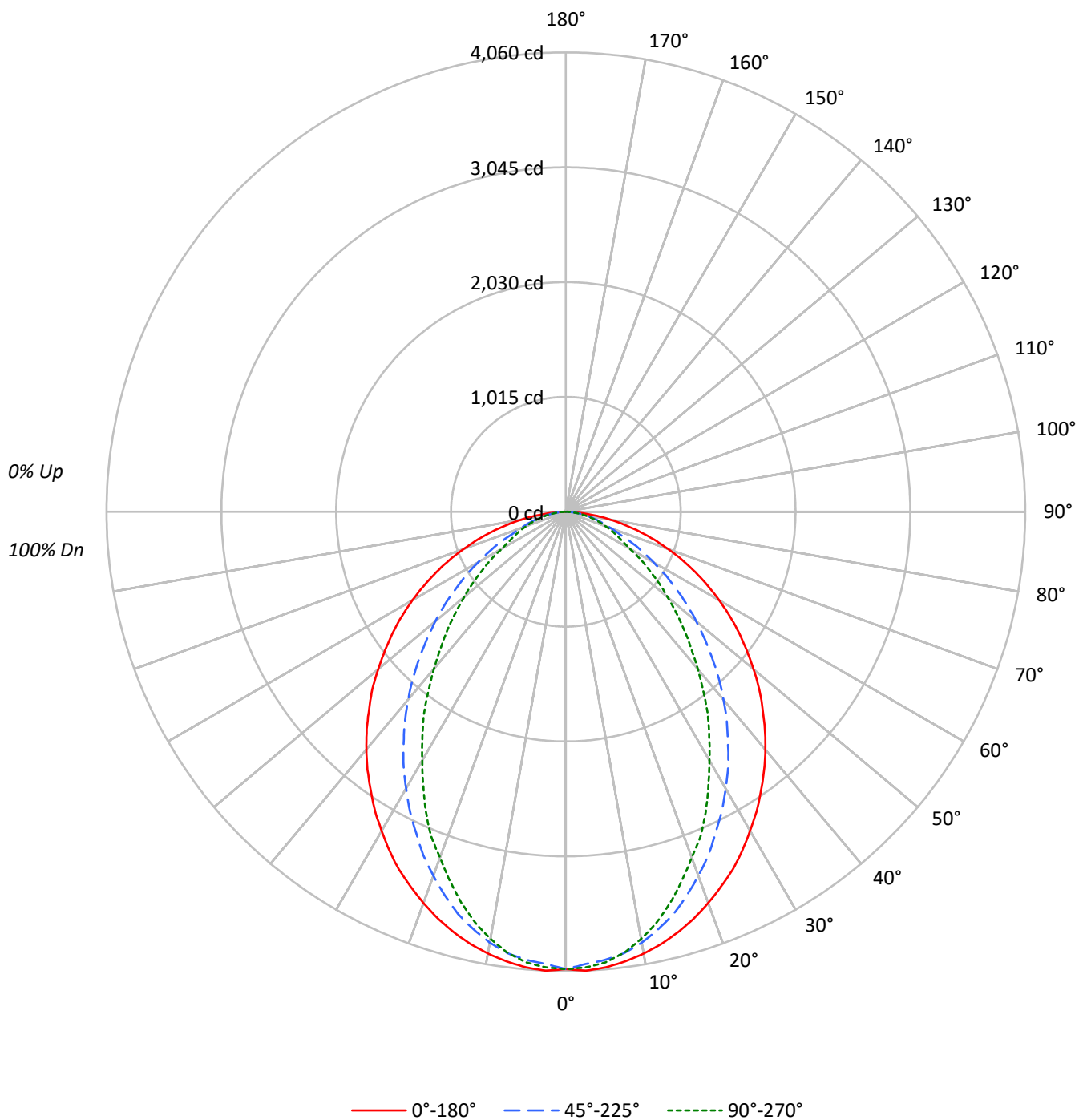
Lumens per Lamp: N/A
Luminaire Lumens: 8313.0 lumens
Efficiency: N/A
Efficacy: 66.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 125.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931184

CATALOG NUMBER: DFN2DS-SQ4F0-120DS930-RLL

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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2836	2836	2836
5°	2847	2801	2816
10°	2825	2755	2732
15°	2793	2673	2596
20°	2748	2557	2428
25°	2702	2424	2266
30°	2638	2288	2057
35°	2576	2140	1874
40°	2513	1987	1662
45°	2439	1815	1470
50°	2364	1641	1282
55°	2287	1454	1101
60°	2197	1258	914
65°	2095	1057	832
70°	1974	870	765
75°	1824	794	714
80°	1611	709	651
85°	1266	559	559

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2439 cd/sqm

TEST NUMBER: P931184

CATALOG NUMBER: DFN2DS-SQ4F0-120DS930-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.8	4.6
10°-20°	1040.0	12.5
20°-30°	1460.1	17.6
30°-40°	1591.6	19.1
40°-50°	1462.8	17.6
50°-60°	1148.8	13.8
60°-70°	747.8	9.0
70°-80°	384.9	4.6
80°-90°	98.3	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°	2878.9	34.6
0°-40°	4470.4	53.8
0°-60°	7082.1	85.2
0°-90°	8313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4042	4042	4042	4042	4042	
5°	4042	4024	3976	4009	3998	383
15°	3844	3804	3680	3610	3574	1083
25°	3490	3373	3131	2981	2926	1605
35°	3007	2820	2498	2268	2187	1882
45°	2458	2213	1829	1569	1481	1898
55°	1869	1584	1189	969	900	1670
65°	1262	966	636	512	501	1251
75°	673	417	293	267	264	712
85°	157	80	69	69	69	188
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4042.1	4042.1	4042.1	4042.1	4042.1
2.5°	4060.3	4042.1	4001.7	4038.6	4031.2
5°	4042.1	4023.8	3976.1	4009.1	3998.2
7.5°	4009.1	3987.3	3936.1	3950.5	3932.2
10°	3965.2	3939.6	3866.6	3855.4	3833.7
12.5°	3910.5	3877.5	3778.5	3756.8	3716.5
15°	3844.5	3804.2	3680.0	3610.4	3574.0
17.5°	3767.7	3709.1	3555.4	3475.1	3416.5
20°	3680.0	3606.6	3423.8	3332.6	3251.8
22.5°	3584.9	3500.7	3288.4	3164.2	3109.5
25°	3489.8	3372.6	3131.1	2981.4	2926.3
27.5°	3376.5	3251.8	2984.9	2813.0	2728.7
30°	3255.8	3116.5	2823.8	2637.5	2538.6
32.5°	3138.6	2970.1	2670.5	2450.9	2359.3
35°	3007.0	2820.3	2498.5	2268.1	2187.3
37.5°	2878.9	2677.5	2337.5	2084.9	1993.7
40°	2743.5	2524.2	2169.1	1909.5	1814.4
42.5°	2604.5	2370.5	2001.1	1730.2	1639.0
45°	2458.2	2213.0	1829.1	1569.1	1481.3
47.5°	2319.2	2059.7	1664.6	1404.6	1324.2
50°	2165.6	1906.0	1503.5	1250.9	1174.4
52.5°	2015.4	1741.0	1349.8	1108.4	1039.0
55°	1869.1	1583.9	1188.8	969.4	900.0
57.5°	1719.2	1426.7	1046.3	841.4	782.8
60°	1565.6	1272.9	896.1	709.9	651.3
62.5°	1415.8	1123.2	768.1	592.7	563.5
65°	1262.1	965.6	636.5	512.3	501.1
67.5°	1115.8	819.2	512.3	449.8	439.0
70°	962.1	676.9	424.2	387.7	372.9
72.5°	815.8	544.9	354.7	325.6	318.3
75°	672.9	416.8	292.7	267.0	263.5
77.5°	530.6	296.1	230.6	215.8	208.4
80°	398.6	212.3	175.4	161.0	161.0
82.5°	277.9	142.8	120.7	113.3	113.3
85°	157.2	80.4	69.4	69.4	69.4
87.5°	58.6	29.1	29.1	25.6	25.6
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	14.86	16.38	15.22	16.69	17.01	10.82	12.34	11.18	12.65	12.97
	3H	16.62	17.99	17.00	18.31	18.68	12.08	13.45	12.46	13.78	14.14
	4H	17.29	18.57	17.69	18.92	19.30	12.58	13.86	12.98	14.21	14.59
	6H	17.78	18.96	18.19	19.33	19.72	12.96	14.15	13.38	14.51	14.91
	8H	17.94	19.07	18.37	19.46	19.86	13.09	14.22	13.52	14.61	15.01
	12H	18.05	19.12	18.48	19.51	19.94	13.17	14.25	13.60	14.63	15.06
4H	2H	14.96	16.24	15.36	16.59	16.97	11.51	12.79	11.91	13.14	13.52
	3H	16.89	17.96	17.30	18.36	18.76	12.96	14.02	13.37	14.42	14.82
	4H	17.64	18.60	18.08	19.02	19.45	13.56	14.51	13.99	14.93	15.37
	6H	18.24	19.07	18.69	19.51	19.97	14.04	14.88	14.50	15.32	15.78
	8H	18.45	19.23	18.91	19.67	20.14	14.21	14.98	14.67	15.43	15.89
	12H	18.60	19.30	19.09	19.78	20.25	14.32	15.02	14.80	15.49	15.97
8H	4H	17.67	18.44	18.13	18.89	19.36	13.91	14.69	14.37	15.13	15.60
	6H	18.31	18.95	18.80	19.44	19.92	14.50	15.14	14.99	15.63	16.11
	8H	18.56	19.13	19.07	19.64	20.13	14.72	15.29	15.23	15.80	16.29
	12H	18.76	19.27	19.27	19.76	20.33	14.90	15.41	15.40	15.90	16.46
12H	4H	17.65	18.35	18.13	18.82	19.30	13.95	14.65	14.43	15.13	15.60
	6H	18.29	18.86	18.80	19.37	19.86	14.56	15.14	15.07	15.65	16.13
	8H	18.57	19.08	19.08	19.57	20.14	14.83	15.34	15.34	15.83	16.40

END OF REPORT