

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: P931051

Luminaire Tested: DFN2DS-SQ3F0-120DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931051
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ3F0-120DS840-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

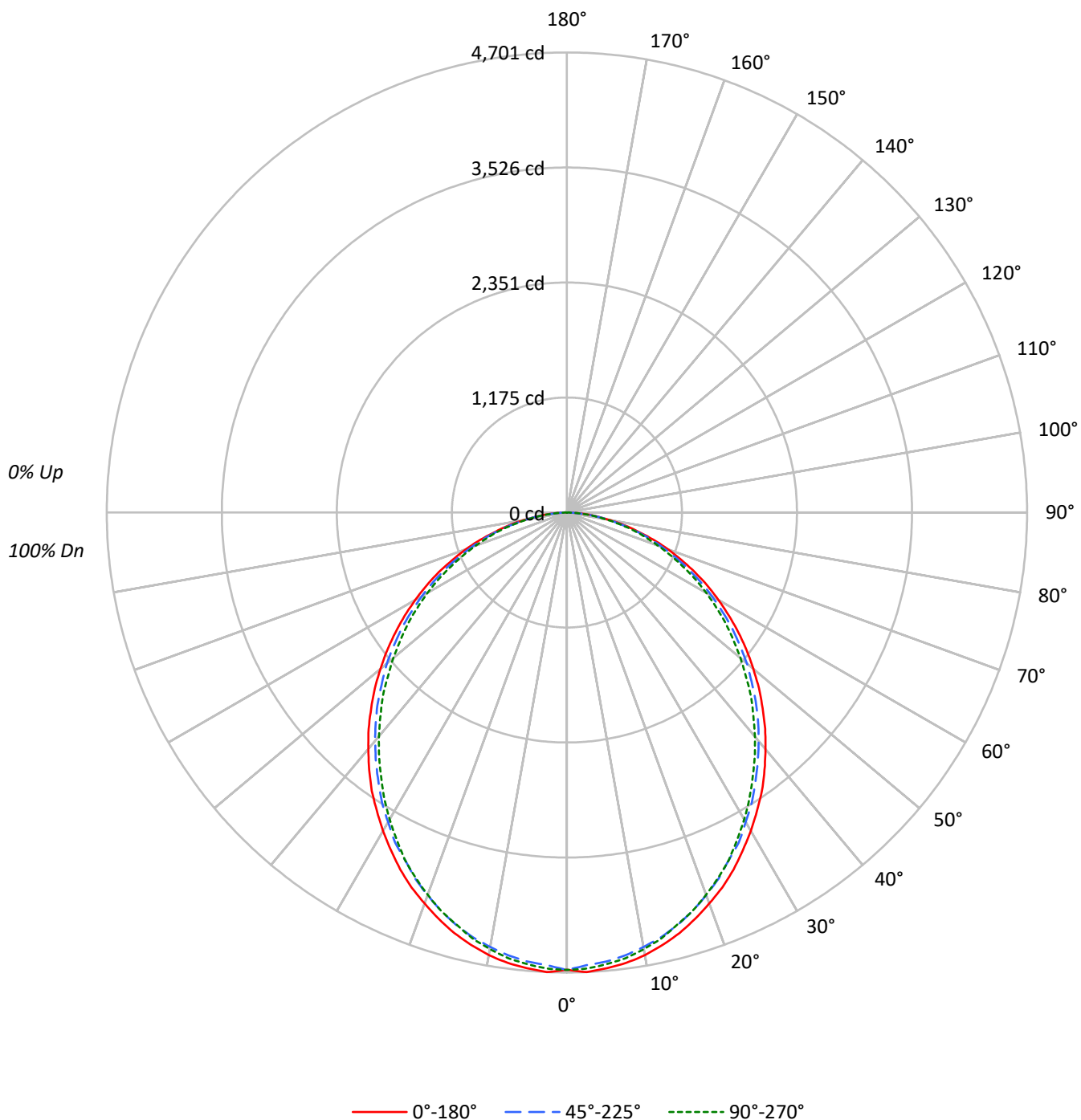
Lumens per Lamp: N/A
Luminaire Lumens: 11891.9 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 131.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
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
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5355	5355	5355
5°	5376	5299	5330
10°	5344	5245	5271
15°	5278	5177	5172
20°	5184	5075	5070
25°	5091	4949	4949
30°	4971	4834	4793
35°	4860	4696	4627
40°	4720	4557	4470
45°	4581	4420	4312
50°	4430	4278	4126
55°	4274	4112	3960
60°	4099	3914	3770
65°	3912	3717	3546
70°	3674	3477	3313
75°	3342	3202	3124
80°	2967	2876	2728
85°	2420	2307	2069

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4581 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.9	3.7
10°-20°	1237.7	10.4
20°-30°	1819.0	15.3
30°-40°	2112.7	17.8
40°-50°	2110.0	17.7
50°-60°	1839.9	15.5
60°-70°	1360.1	11.4
70°-80°	769.5	6.5
80°-90°	203.1	1.7
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°	3496.6	29.4
0°-40°	5609.3	47.2
0°-60°	9559.2	80.4
0°-90°	11891.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11891.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4674	4674	4674	4674	4674	
5°	4674	4656	4607	4642	4634	444
15°	4449	4423	4364	4382	4360	1253
25°	4027	3991	3915	3923	3915	1853
35°	3474	3429	3357	3330	3308	2170
45°	2827	2796	2728	2679	2661	2182
55°	2140	2112	2058	2005	1982	1913
65°	1443	1416	1371	1330	1308	1427
75°	755	746	723	697	706	806
85°	184	180	176	162	157	216
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4674.0	4674.0	4674.0	4674.0	4674.0
2.5°	4701.1	4678.7	4629.1	4674.0	4665.4
5°	4674.0	4656.3	4606.7	4642.4	4633.8
7.5°	4642.4	4615.7	4566.2	4602.4	4593.4
10°	4593.4	4561.9	4508.0	4543.7	4530.4
12.5°	4525.6	4498.9	4445.0	4467.5	4458.4
15°	4449.3	4422.6	4364.0	4382.1	4359.7
17.5°	4355.0	4328.2	4269.6	4292.0	4269.6
20°	4251.4	4224.7	4161.9	4175.2	4157.6
22.5°	4148.4	4107.9	4049.2	4049.2	4040.2
25°	4026.8	3991.1	3914.8	3923.4	3914.8
27.5°	3891.9	3860.5	3802.3	3788.9	3766.6
30°	3757.5	3721.2	3654.0	3640.6	3622.5
32.5°	3613.4	3586.8	3514.7	3487.6	3469.5
35°	3474.2	3429.4	3357.4	3330.2	3307.8
37.5°	3316.8	3276.4	3204.3	3172.9	3150.4
40°	3155.3	3119.0	3046.9	3006.9	2988.8
42.5°	2997.9	2961.7	2890.1	2844.8	2818.1
45°	2827.1	2795.7	2727.9	2678.9	2660.8
47.5°	2660.8	2629.2	2557.3	2507.7	2481.0
50°	2485.3	2462.9	2399.9	2336.9	2314.5
52.5°	2314.5	2283.1	2224.9	2175.3	2143.8
55°	2139.5	2112.4	2058.5	2004.6	1982.2
57.5°	1964.1	1941.6	1883.0	1829.1	1811.0
60°	1788.6	1771.0	1708.0	1658.5	1645.0
62.5°	1617.9	1586.4	1541.6	1496.8	1478.7
65°	1442.9	1415.7	1370.9	1330.3	1308.0
67.5°	1263.2	1240.2	1200.2	1168.8	1150.6
70°	1096.7	1078.6	1038.0	1006.6	989.0
72.5°	926.0	907.9	885.5	854.1	840.6
75°	754.9	746.2	723.3	696.7	705.7
77.5°	602.2	584.1	575.1	561.7	548.3
80°	449.6	444.8	435.8	422.5	413.4
82.5°	305.6	305.6	301.4	283.3	283.3
85°	184.1	179.8	175.5	161.7	157.4
87.5°	81.1	72.0	63.0	49.5	44.8
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	17.11	18.72	17.48	19.04	19.35	16.67	18.28	17.03	18.59	18.91
	3H	18.86	20.32	19.24	20.64	21.00	18.37	19.83	18.75	20.15	20.51
	4H	19.51	20.88	19.91	21.23	21.60	19.01	20.38	19.41	20.73	21.11
	6H	19.98	21.25	20.39	21.61	22.00	19.48	20.75	19.89	21.11	21.50
	8H	20.12	21.33	20.55	21.72	22.12	19.62	20.83	20.04	21.22	21.62
	12H	20.21	21.37	20.64	21.75	22.18	19.70	20.86	20.13	21.24	21.67
4H	2H	17.67	19.04	18.07	19.39	19.77	17.32	18.69	17.72	19.04	19.41
	3H	19.65	20.79	20.06	21.19	21.59	19.24	20.39	19.65	20.79	21.19
	4H	20.42	21.46	20.86	21.87	22.31	20.00	21.04	20.43	21.45	21.89
	6H	21.02	21.93	21.48	22.37	22.82	20.59	21.49	21.04	21.93	22.39
	8H	21.21	22.06	21.67	22.50	22.97	20.77	21.62	21.23	22.06	22.53
	12H	21.34	22.10	21.82	22.58	23.05	20.89	21.65	21.37	22.13	22.60
8H	4H	20.70	21.54	21.16	21.99	22.45	20.32	21.17	20.78	21.61	22.08
	6H	21.41	22.12	21.91	22.60	23.08	21.03	21.73	21.52	22.22	22.70
	8H	21.67	22.30	22.18	22.81	23.30	21.28	21.91	21.79	22.42	22.90
	12H	21.87	22.43	22.38	22.92	23.48	21.46	22.02	21.97	22.51	23.07
12H	4H	20.72	21.48	21.20	21.96	22.43	20.36	21.12	20.84	21.60	22.06
	6H	21.46	22.09	21.97	22.60	23.08	21.09	21.72	21.60	22.23	22.71
	8H	21.77	22.33	22.28	22.82	23.38	21.39	21.95	21.90	22.44	23.00