

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: P931173

Luminaire Tested: DFN2DS-SQ4F0-120DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931173
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-SQ4F0-120DS830-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

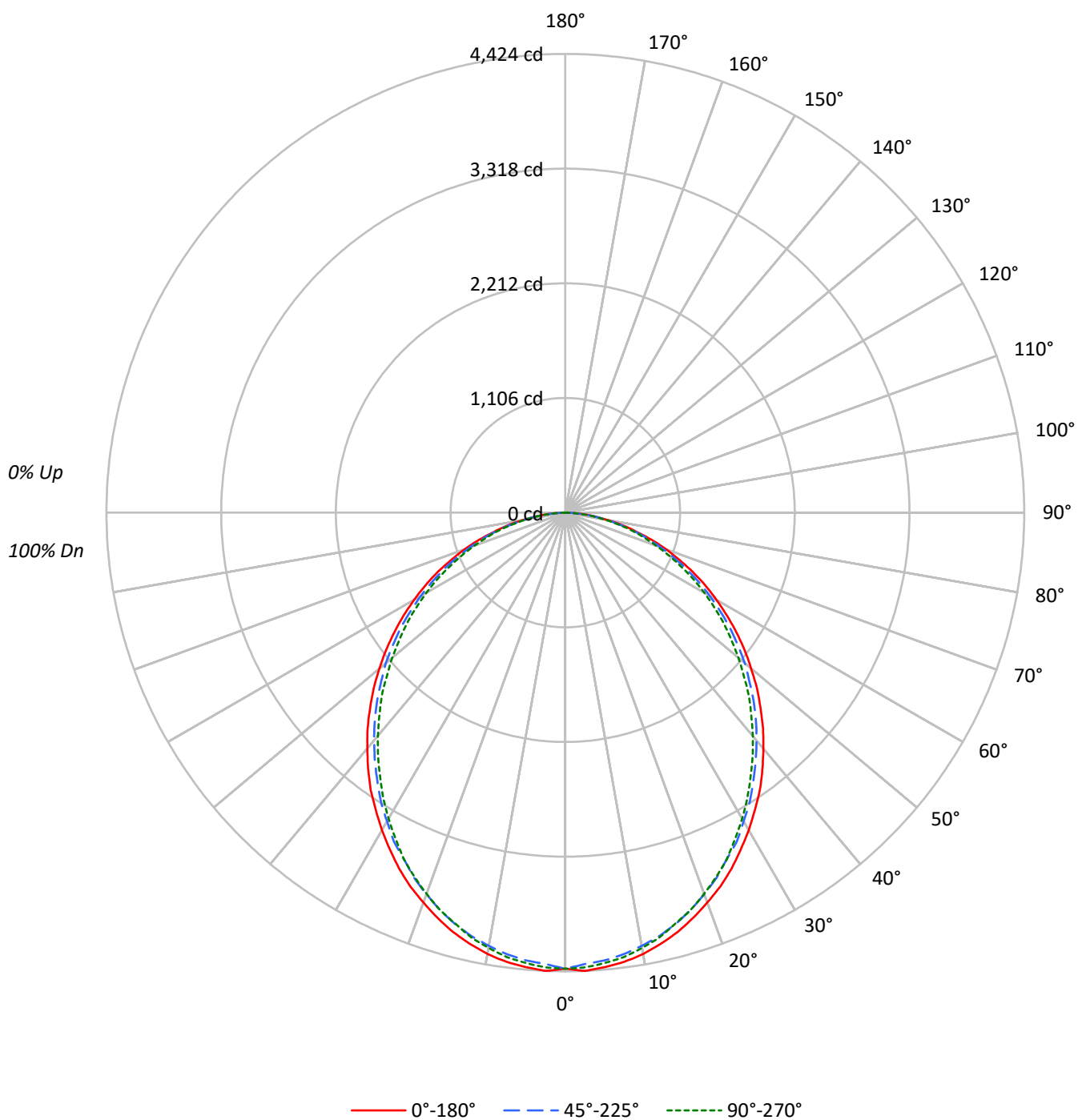
Lumens per Lamp: N/A
Luminaire Lumens: 11191.0 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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

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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°	3086	3086	3086
5°	3098	3054	3071
10°	3080	3023	3038
15°	3042	2983	2980
20°	2988	2925	2921
25°	2934	2852	2852
30°	2865	2786	2762
35°	2801	2706	2666
40°	2720	2626	2576
45°	2640	2547	2485
50°	2553	2465	2378
55°	2463	2370	2282
60°	2362	2256	2173
65°	2255	2142	2044
70°	2117	2004	1909
75°	1926	1845	1800
80°	1710	1657	1572
85°	1394	1329	1192

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2640 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.0	3.7
10°-20°	1164.8	10.4
20°-30°	1711.8	15.3
30°-40°	1988.1	17.8
40°-50°	1985.7	17.7
50°-60°	1731.4	15.5
60°-70°	1279.9	11.4
70°-80°	724.1	6.5
80°-90°	191.1	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°	3290.5	29.4
0°-40°	5278.7	47.2
0°-60°	8995.8	80.4
0°-90°	11191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11191.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4398	4398	4398	4398	4398	
5°	4398	4382	4335	4369	4361	418
15°	4187	4162	4107	4124	4103	1179
25°	3790	3756	3684	3692	3684	1744
35°	3269	3227	3160	3134	3113	2042
45°	2660	2631	2567	2521	2504	2053
55°	2013	1988	1937	1886	1865	1800
65°	1358	1332	1290	1252	1231	1343
75°	710	702	681	656	664	758
85°	173	169	165	152	148	204
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4398.5	4398.5	4398.5	4398.5	4398.5
2.5°	4424.0	4402.9	4356.3	4398.5	4390.4
5°	4398.5	4381.8	4335.2	4368.8	4360.7
7.5°	4368.8	4343.7	4297.0	4331.1	4322.6
10°	4322.6	4293.0	4242.3	4275.9	4263.4
12.5°	4258.9	4233.7	4183.0	4204.1	4195.6
15°	4187.1	4161.9	4106.7	4123.8	4102.7
17.5°	4098.3	4073.1	4017.9	4039.0	4017.9
20°	4000.9	3975.7	3916.6	3929.1	3912.5
22.5°	3903.9	3865.8	3810.6	3810.6	3802.1
25°	3789.5	3755.8	3684.1	3692.2	3684.1
27.5°	3662.5	3632.9	3578.2	3565.6	3544.6
30°	3536.0	3501.9	3438.6	3426.1	3409.0
32.5°	3400.4	3375.4	3307.6	3282.0	3265.0
35°	3269.4	3227.3	3159.5	3133.9	3112.8
37.5°	3121.3	3083.3	3015.4	2985.9	2964.8
40°	2969.3	2935.2	2867.4	2829.7	2812.6
42.5°	2821.2	2787.1	2719.7	2677.2	2652.0
45°	2660.5	2630.9	2567.1	2521.0	2503.9
47.5°	2503.9	2474.3	2406.5	2359.9	2334.7
50°	2338.8	2317.7	2258.4	2199.2	2178.1
52.5°	2178.1	2148.5	2093.8	2047.1	2017.5
55°	2013.4	1987.9	1937.1	1886.4	1865.3
57.5°	1848.3	1827.2	1772.0	1721.3	1704.3
60°	1683.2	1666.6	1607.3	1560.7	1548.1
62.5°	1522.6	1492.9	1450.8	1408.6	1391.5
65°	1357.9	1332.3	1290.1	1251.9	1230.9
67.5°	1188.7	1167.1	1129.5	1099.9	1082.8
70°	1032.1	1015.0	976.9	947.3	930.7
72.5°	871.4	854.4	833.3	803.7	791.1
75°	710.4	702.3	680.7	655.6	664.1
77.5°	566.7	549.7	541.2	528.6	516.0
80°	423.1	418.6	410.1	397.6	389.0
82.5°	287.6	287.6	283.6	266.6	266.6
85°	173.2	169.2	165.1	152.1	148.1
87.5°	76.3	67.7	59.3	46.6	42.2
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	15.20	16.81	15.56	17.12	17.44	14.75	16.36	15.12	16.68	16.99
	3H	16.95	18.40	17.33	18.73	19.09	16.46	17.91	16.83	18.24	18.60
	4H	17.59	18.96	17.99	19.31	19.69	17.10	18.47	17.50	18.82	19.19
	6H	18.06	19.33	18.47	19.70	20.09	17.56	18.83	17.97	19.20	19.59
	8H	18.21	19.42	18.63	19.81	20.21	17.70	18.91	18.13	19.30	19.70
	12H	18.30	19.46	18.73	19.84	20.27	17.78	18.94	18.21	19.33	19.76
4H	2H	15.76	17.13	16.16	17.48	17.85	15.41	16.77	15.80	17.12	17.50
	3H	17.73	18.88	18.14	19.28	19.68	17.33	18.47	17.74	18.87	19.27
	4H	18.51	19.55	18.94	19.96	20.40	18.09	19.12	18.52	19.54	19.97
	6H	19.11	20.01	19.56	20.45	20.91	18.67	19.58	19.13	20.02	20.48
	8H	19.30	20.14	19.76	20.58	21.05	18.86	19.70	19.32	20.15	20.61
	12H	19.43	20.19	19.91	20.66	21.13	18.98	19.74	19.46	20.21	20.68
8H	4H	18.78	19.63	19.24	20.07	20.54	18.41	19.26	18.87	19.70	20.16
	6H	19.50	20.20	19.99	20.69	21.16	19.12	19.82	19.61	20.31	20.78
	8H	19.76	20.39	20.27	20.89	21.38	19.37	20.00	19.88	20.50	20.99
	12H	19.96	20.51	20.46	21.01	21.57	19.54	20.10	20.05	20.59	21.15
12H	4H	18.81	19.57	19.29	20.05	20.51	18.44	19.20	18.93	19.68	20.15
	6H	19.54	20.17	20.05	20.68	21.17	19.17	19.81	19.68	20.31	20.80
	8H	19.86	20.41	20.36	20.91	21.47	19.48	20.04	19.99	20.53	21.09