

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: P931033

Luminaire Tested: DFN2DS-SQ3F0-110DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931033
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-SQ3F0-110DS840-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

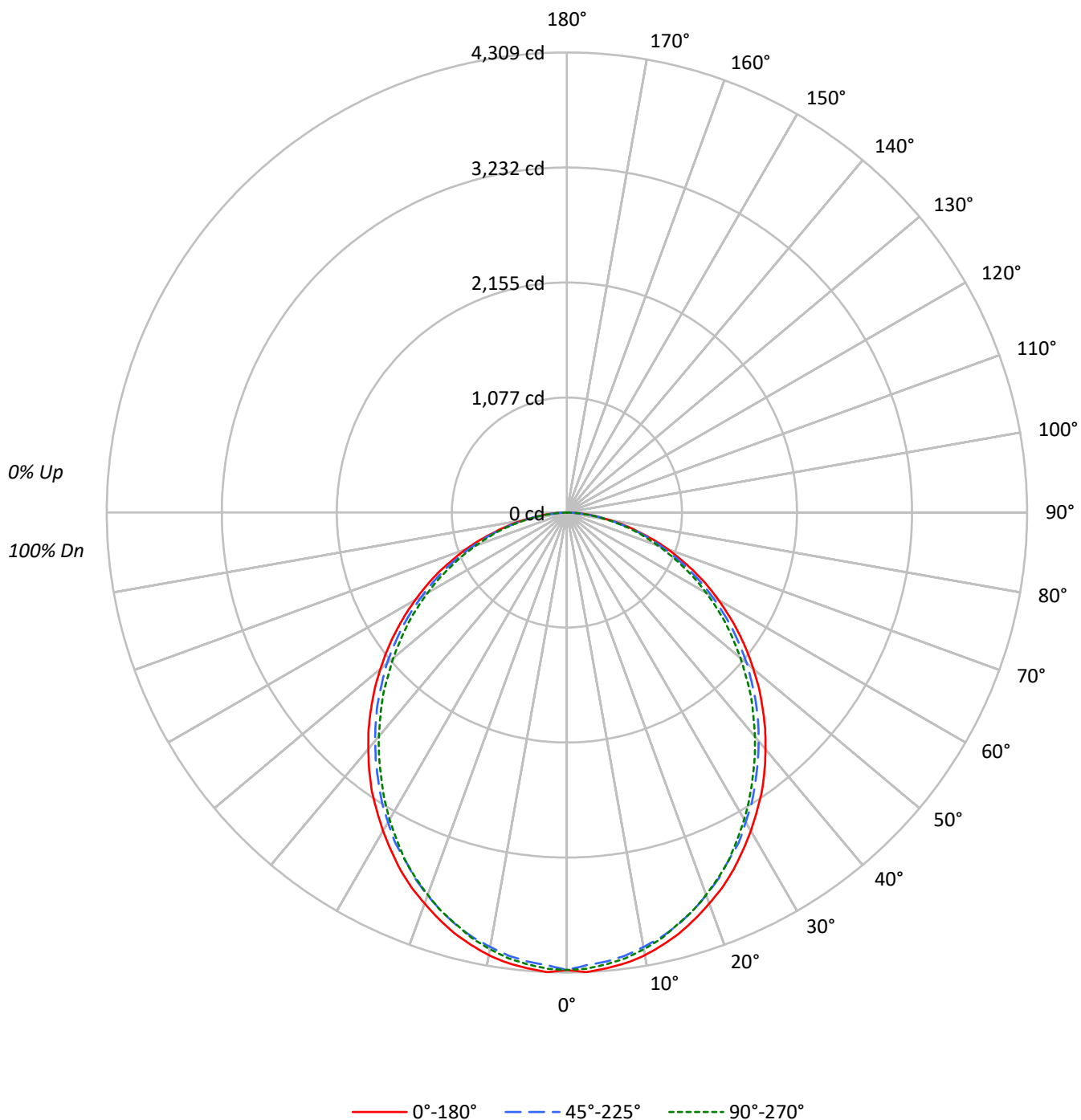
Lumens per Lamp: N/A
Luminaire Lumens: 10900.9 lumens
Efficiency: N/A
Efficacy: 92.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 117.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931033

CATALOG NUMBER: DFN2DS-SQ3F0-110DS840-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931033

CATALOG NUMBER: DFN2DS-SQ3F0-110DS840-FLL

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°	4909	4909	4909
5°	4928	4857	4886
10°	4899	4808	4832
15°	4838	4745	4741
20°	4752	4652	4647
25°	4667	4537	4537
30°	4557	4431	4393
35°	4455	4305	4241
40°	4326	4178	4098
45°	4199	4052	3952
50°	4061	3921	3782
55°	3918	3770	3630
60°	3757	3588	3456
65°	3586	3407	3251
70°	3368	3188	3037
75°	3063	2936	2864
80°	2720	2636	2501
85°	2219	2115	1896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4199 cd/sqm

TEST NUMBER: P931033

CATALOG NUMBER: DFN2DS-SQ3F0-110DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	403.3	3.7
10°-20°	1134.6	10.4
20°-30°	1667.4	15.3
30°-40°	1936.6	17.8
40°-50°	1934.2	17.7
50°-60°	1686.5	15.5
60°-70°	1246.7	11.4
70°-80°	705.4	6.5
80°-90°	186.2	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°	3205.3	29.4
0°-40°	5141.8	47.2
0°-60°	8762.6	80.4
0°-90°	10900.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10900.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4284	4284	4284	4284	4284	
5°	4284	4268	4223	4256	4248	407
15°	4079	4054	4000	4017	3996	1149
25°	3691	3659	3589	3596	3589	1699
35°	3185	3144	3078	3053	3032	1989
45°	2592	2563	2501	2456	2439	2000
55°	1961	1936	1887	1838	1817	1753
65°	1323	1298	1257	1220	1199	1308
75°	692	684	663	639	647	739
85°	169	165	161	148	144	198
90°	0	0	0	0	0	

TEST NUMBER: P931033

CATALOG NUMBER: DFN2DS-SQ3F0-110DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4284.5	4284.5	4284.5	4284.5	4284.5
2.5°	4309.3	4288.8	4243.3	4284.5	4276.6
5°	4284.5	4268.3	4222.8	4255.6	4247.7
7.5°	4255.6	4231.1	4185.7	4218.9	4210.6
10°	4210.6	4181.7	4132.3	4165.1	4152.8
12.5°	4148.5	4124.0	4074.7	4095.2	4086.9
15°	4078.6	4054.0	4000.3	4016.9	3996.4
17.5°	3992.0	3967.6	3913.8	3934.3	3913.8
20°	3897.2	3872.7	3815.0	3827.2	3811.1
22.5°	3802.8	3765.6	3711.8	3711.8	3703.5
25°	3691.3	3658.6	3588.6	3596.5	3588.6
27.5°	3567.6	3538.7	3485.4	3473.2	3452.6
30°	3444.3	3411.1	3349.4	3337.2	3320.6
32.5°	3312.3	3287.9	3221.8	3196.9	3180.3
35°	3184.7	3143.6	3077.6	3052.6	3032.1
37.5°	3040.4	3003.3	2937.3	2908.4	2887.9
40°	2892.3	2859.1	2793.1	2756.4	2739.7
42.5°	2748.0	2714.8	2649.2	2607.7	2583.3
45°	2591.6	2562.7	2500.6	2455.7	2439.0
47.5°	2439.0	2410.2	2344.1	2298.7	2274.2
50°	2278.2	2257.7	2199.9	2142.2	2121.7
52.5°	2121.7	2092.8	2039.5	1994.0	1965.2
55°	1961.3	1936.3	1887.0	1837.5	1817.0
57.5°	1800.4	1779.9	1726.1	1676.7	1660.1
60°	1639.5	1623.4	1565.7	1520.2	1508.0
62.5°	1483.1	1454.3	1413.1	1372.1	1355.5
65°	1322.6	1297.7	1256.7	1219.5	1199.0
67.5°	1157.9	1136.9	1100.2	1071.4	1054.8
70°	1005.3	988.7	951.6	922.7	906.5
72.5°	848.8	832.2	811.7	782.9	770.6
75°	691.9	684.1	663.1	638.6	646.9
77.5°	552.1	535.4	527.1	514.9	502.7
80°	412.2	407.8	399.5	387.3	379.0
82.5°	280.2	280.2	276.3	259.7	259.7
85°	168.8	164.8	160.9	148.1	144.2
87.5°	74.3	66.0	57.7	45.4	41.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931033

CATALOG NUMBER: DFN2DS-SQ3F0-110DS840-FLL

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	16.81	18.42	17.18	18.74	19.05	16.37	17.98	16.73	18.29	18.61
	3H	18.56	20.02	18.94	20.34	20.70	18.07	19.52	18.45	19.85	20.21
	4H	19.21	20.58	19.61	20.92	21.30	18.71	20.08	19.11	20.43	20.81
	6H	19.68	20.94	20.09	21.31	21.70	19.17	20.44	19.59	20.81	21.20
	8H	19.82	21.03	20.24	21.42	21.82	19.32	20.53	19.74	20.92	21.32
	12H	19.91	21.07	20.34	21.45	21.88	19.40	20.56	19.83	20.94	21.37
4H	2H	17.37	18.74	17.77	19.09	19.46	17.02	18.39	17.42	18.74	19.11
	3H	19.35	20.49	19.76	20.89	21.29	18.94	20.09	19.35	20.48	20.88
	4H	20.12	21.16	20.55	21.57	22.01	19.70	20.73	20.13	21.15	21.58
	6H	20.72	21.62	21.17	22.06	22.52	20.29	21.19	20.74	21.63	22.09
	8H	20.91	21.76	21.37	22.20	22.66	20.47	21.32	20.93	21.76	22.23
	12H	21.04	21.80	21.52	22.28	22.75	20.59	21.35	21.07	21.82	22.29
8H	4H	20.40	21.24	20.86	21.69	22.15	20.02	20.87	20.48	21.31	21.78
	6H	21.11	21.81	21.60	22.30	22.78	20.73	21.43	21.22	21.92	22.40
	8H	21.37	22.00	21.88	22.51	22.99	20.98	21.61	21.49	22.12	22.60
	12H	21.57	22.13	22.08	22.62	23.18	21.16	21.71	21.66	22.20	22.77
12H	4H	20.42	21.18	20.90	21.66	22.13	20.06	20.82	20.54	21.29	21.76
	6H	21.16	21.79	21.67	22.29	22.78	20.79	21.42	21.30	21.93	22.41
	8H	21.47	22.03	21.98	22.52	23.08	21.09	21.65	21.60	22.14	22.70