

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: P931194

Luminaire Tested: DFN2DS-SQ4F0-140DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931194
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-SQ4F0-140DS835-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

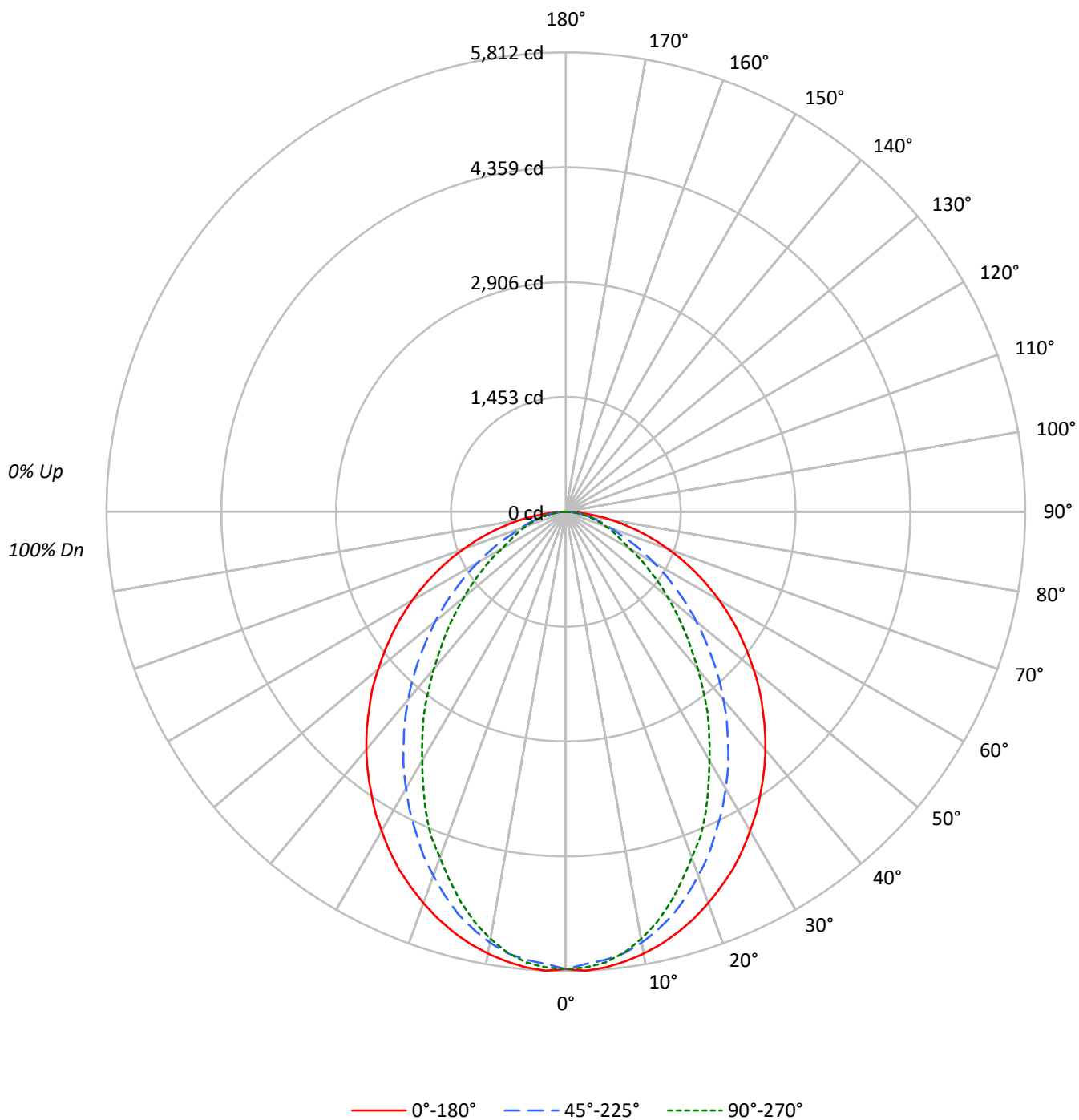
Lumens per Lamp: N/A
Luminaire Lumens: 11900.0 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 151.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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	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°	4060	4060	4060
5°	4076	4009	4031
10°	4044	3944	3910
15°	3998	3827	3717
20°	3934	3660	3476
25°	3868	3470	3243
30°	3776	3275	2944
35°	3687	3064	2682
40°	3597	2844	2379
45°	3492	2598	2104
50°	3384	2349	1835
55°	3273	2082	1576
60°	3145	1800	1308
65°	3000	1513	1191
70°	2825	1246	1095
75°	2612	1136	1023
80°	2306	1015	932
85°	1811	800	800

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3492 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	542.3	4.6
10°-20°	1488.7	12.5
20°-30°	2090.1	17.6
30°-40°	2278.3	19.1
40°-50°	2094.0	17.6
50°-60°	1644.5	13.8
60°-70°	1070.4	9.0
70°-80°	551.0	4.6
80°-90°	140.7	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°	4121.0	34.6
0°-40°	6399.4	53.8
0°-60°	10137.9	85.2
0°-90°	11900.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11900.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5786	5786	5786	5786	5786	
5°	5786	5760	5692	5739	5723	549
15°	5503	5446	5268	5168	5116	1551
25°	4996	4828	4482	4268	4189	2297
35°	4304	4037	3577	3247	3131	2694
45°	3519	3168	2618	2246	2121	2718
55°	2676	2267	1702	1388	1288	2391
65°	1807	1382	911	733	717	1791
75°	963	597	419	382	377	1019
85°	225	115	99	99	99	270
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5786.2	5786.2	5786.2	5786.2	5786.2
2.5°	5812.3	5786.2	5728.4	5781.2	5770.6
5°	5786.2	5760.1	5691.7	5739.0	5723.4
7.5°	5739.0	5707.8	5634.5	5655.1	5629.0
10°	5676.2	5639.5	5535.1	5518.9	5487.8
12.5°	5597.8	5550.6	5408.9	5377.8	5320.1
15°	5503.4	5445.6	5267.8	5168.4	5116.2
17.5°	5393.4	5309.5	5089.5	4974.5	4890.6
20°	5267.8	5162.8	4901.2	4770.6	4655.1
22.5°	5131.7	5011.2	4707.3	4529.5	4451.2
25°	4995.6	4827.8	4482.3	4267.8	4188.9
27.5°	4833.4	4655.1	4272.8	4026.7	3906.2
30°	4660.6	4461.2	4042.3	3775.6	3633.9
32.5°	4492.8	4251.7	3822.8	3508.4	3377.3
35°	4304.5	4037.3	3576.7	3246.7	3131.1
37.5°	4121.2	3832.8	3346.1	2984.5	2853.9
40°	3927.3	3613.4	3105.0	2733.4	2597.3
42.5°	3728.4	3393.4	2864.5	2476.7	2346.1
45°	3518.9	3167.8	2618.4	2246.1	2120.6
47.5°	3320.0	2948.4	2382.8	2010.6	1895.6
50°	3100.0	2728.4	2152.2	1790.6	1681.1
52.5°	2885.0	2492.2	1932.2	1586.7	1487.2
55°	2675.6	2267.2	1701.7	1387.8	1288.3
57.5°	2461.1	2042.2	1497.8	1204.5	1120.6
60°	2241.1	1822.2	1282.8	1016.1	932.2
62.5°	2026.7	1607.8	1099.5	848.3	806.7
65°	1806.7	1382.2	911.1	733.3	717.2
67.5°	1597.2	1172.8	733.3	643.9	628.3
70°	1377.2	968.9	607.2	555.0	533.9
72.5°	1167.8	780.0	507.8	466.1	455.6
75°	963.3	596.7	418.9	382.2	377.2
77.5°	759.5	423.9	330.0	308.9	298.3
80°	570.6	303.9	251.1	230.6	230.6
82.5°	397.8	204.4	172.8	162.2	162.2
85°	225.0	115.0	99.4	99.4	99.4
87.5°	83.9	41.7	41.7	36.7	36.7
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	16.10	17.62	16.47	17.94	18.25	12.06	13.59	12.43	13.90	14.21
	3H	17.87	19.23	18.25	19.56	19.92	13.33	14.69	13.71	15.02	15.38
	4H	18.53	19.82	18.93	20.16	20.54	13.83	15.11	14.23	15.46	15.84
	6H	19.02	20.21	19.44	20.57	20.96	14.21	15.39	14.62	15.76	16.15
	8H	19.19	20.32	19.62	20.70	21.11	14.34	15.46	14.76	15.85	16.25
	12H	19.29	20.37	19.72	20.75	21.18	14.42	15.50	14.85	15.88	16.31
4H	2H	16.21	17.49	16.61	17.84	18.21	12.76	14.04	13.16	14.39	14.77
	3H	18.14	19.20	18.55	19.60	20.00	14.20	15.26	14.61	15.66	16.07
	4H	18.89	19.85	19.32	20.26	20.70	14.80	15.76	15.23	16.17	16.61
	6H	19.48	20.31	19.94	20.76	21.22	15.29	16.12	15.75	16.56	17.02
	8H	19.70	20.47	20.16	20.92	21.38	15.45	16.23	15.92	16.67	17.14
	12H	19.85	20.54	20.33	21.02	21.49	15.57	16.26	16.05	16.74	17.21
8H	4H	18.91	19.69	19.38	20.14	20.60	15.16	15.93	15.62	16.38	16.84
	6H	19.55	20.19	20.05	20.69	21.16	15.74	16.38	16.24	16.88	17.35
	8H	19.80	20.38	20.32	20.89	21.38	15.96	16.54	16.48	17.05	17.54
	12H	20.01	20.52	20.52	21.01	21.57	16.14	16.65	16.65	17.14	17.71
12H	4H	18.90	19.59	19.38	20.07	20.54	15.20	15.89	15.68	16.37	16.84
	6H	19.53	20.11	20.05	20.62	21.11	15.81	16.38	16.32	16.89	17.38
	8H	19.82	20.33	20.33	20.82	21.38	16.08	16.59	16.59	17.08	17.65