

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: P931207

Luminaire Tested: DFN2DS-SQ4F0-140DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931207
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-SQ4F0-140DS950-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

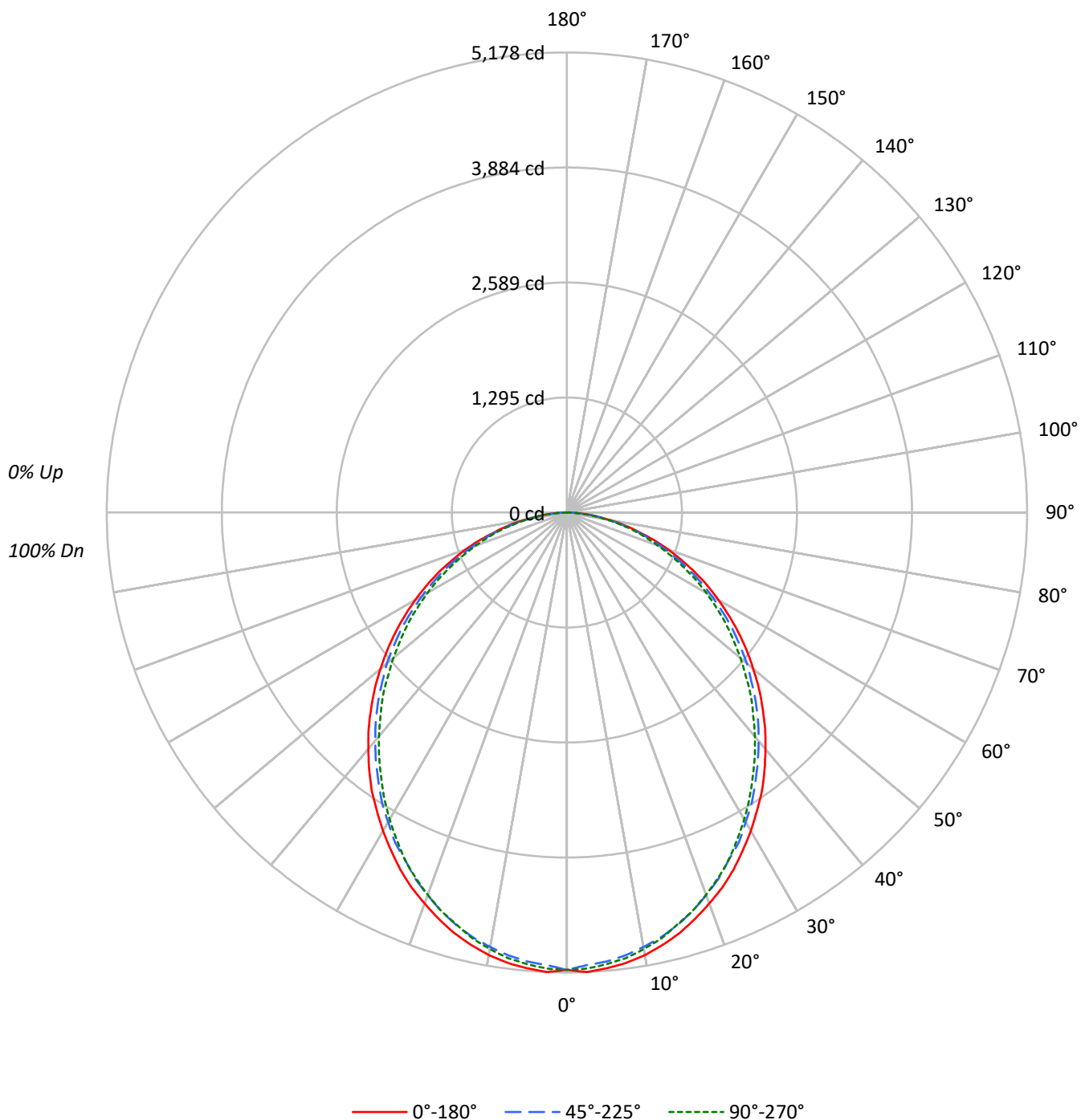
Lumens per Lamp: N/A
Luminaire Lumens: 13097.7 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	3612	3612	3612
5°	3626	3574	3595
10°	3605	3538	3555
15°	3560	3492	3488
20°	3497	3423	3419
25°	3434	3338	3338
30°	3353	3261	3233
35°	3278	3167	3121
40°	3183	3074	3015
45°	3090	2982	2908
50°	2988	2885	2783
55°	2883	2774	2671
60°	2764	2640	2543
65°	2639	2507	2392
70°	2478	2346	2235
75°	2254	2160	2107
80°	2001	1940	1840
85°	1632	1556	1395

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3090 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	484.5	3.7
10°-20°	1363.3	10.4
20°-30°	2003.4	15.3
30°-40°	2326.9	17.8
40°-50°	2324.0	17.7
50°-60°	2026.4	15.5
60°-70°	1498.0	11.4
70°-80°	847.5	6.5
80°-90°	223.7	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°	3851.2	29.4
0°-40°	6178.1	47.2
0°-60°	10528.5	80.4
0°-90°	13097.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13097.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5148	5148	5148	5148	5148	
5°	5148	5128	5074	5113	5104	489
15°	4900	4871	4806	4826	4802	1380
25°	4435	4396	4312	4321	4312	2041
35°	3826	3777	3698	3668	3643	2390
45°	3114	3079	3005	2950	2930	2403
55°	2356	2327	2267	2208	2183	2107
65°	1589	1559	1510	1465	1441	1571
75°	831	822	797	767	777	888
85°	203	198	193	178	173	238
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5147.9	5147.9	5147.9	5147.9	5147.9
2.5°	5177.7	5153.1	5098.5	5147.9	5138.4
5°	5147.9	5128.4	5073.8	5113.2	5103.8
7.5°	5113.2	5083.8	5029.2	5069.1	5059.1
10°	5059.1	5024.5	4965.1	5004.5	4989.8
12.5°	4984.5	4955.1	4895.8	4920.4	4910.5
15°	4900.5	4871.1	4806.5	4826.5	4801.7
17.5°	4796.5	4767.1	4702.5	4727.2	4702.5
20°	4682.6	4653.2	4583.8	4598.6	4579.1
22.5°	4569.1	4524.5	4459.8	4459.8	4449.9
25°	4435.2	4395.8	4311.8	4321.2	4311.8
27.5°	4286.5	4251.9	4187.9	4173.1	4148.5
30°	4138.4	4098.6	4024.5	4009.8	3989.8
32.5°	3979.9	3950.5	3871.1	3841.2	3821.2
35°	3826.5	3777.2	3697.8	3667.9	3643.2
37.5°	3653.2	3608.6	3529.2	3494.6	3469.9
40°	3475.1	3435.3	3355.9	3311.8	3291.8
42.5°	3301.8	3262.0	3183.1	3133.2	3103.9
45°	3113.8	3079.2	3004.6	2950.5	2930.5
47.5°	2930.5	2895.9	2816.6	2762.0	2732.6
50°	2737.3	2712.6	2643.3	2573.9	2549.2
52.5°	2549.2	2514.6	2450.5	2395.9	2361.3
55°	2356.5	2326.6	2267.2	2207.9	2183.2
57.5°	2163.2	2138.5	2074.0	2014.6	1994.6
60°	1969.9	1950.6	1881.2	1826.6	1811.8
62.5°	1782.0	1747.3	1697.9	1648.6	1628.6
65°	1589.2	1559.2	1509.9	1465.2	1440.6
67.5°	1391.2	1366.0	1321.9	1287.2	1267.2
70°	1207.9	1188.0	1143.4	1108.7	1089.2
72.5°	1019.9	999.9	975.2	940.7	925.9
75°	831.4	822.0	796.7	767.3	777.3
77.5°	663.3	643.4	633.3	618.7	603.9
80°	495.3	490.0	480.1	465.3	455.3
82.5°	336.6	336.6	331.9	311.9	311.9
85°	202.7	198.0	193.3	178.0	173.3
87.5°	89.3	79.3	69.4	54.6	49.3
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	15.74	17.36	16.11	17.67	17.98	15.30	16.91	15.67	17.23	17.54
	3H	17.49	18.95	17.87	19.28	19.64	17.00	18.46	17.38	18.78	19.15
	4H	18.14	19.51	18.54	19.86	20.23	17.65	19.02	18.04	19.36	19.74
	6H	18.61	19.88	19.02	20.24	20.63	18.11	19.38	18.52	19.74	20.13
	8H	18.75	19.96	19.18	20.35	20.75	18.25	19.46	18.67	19.85	20.25
	12H	18.84	20.00	19.27	20.39	20.81	18.33	19.49	18.76	19.87	20.30
4H	2H	16.31	17.67	16.70	18.02	18.40	15.95	17.32	16.35	17.67	18.05
	3H	18.28	19.43	18.69	19.82	20.22	17.87	19.02	18.28	19.42	19.82
	4H	19.06	20.09	19.49	20.51	20.94	18.63	19.67	19.06	20.08	20.52
	6H	19.65	20.56	20.11	21.00	21.46	19.22	20.13	19.68	20.57	21.02
	8H	19.84	20.69	20.30	21.13	21.60	19.40	20.25	19.87	20.69	21.16
	12H	19.97	20.73	20.45	21.21	21.68	19.52	20.28	20.00	20.76	21.23
8H	4H	19.33	20.18	19.79	20.62	21.08	18.96	19.80	19.42	20.24	20.71
	6H	20.04	20.75	20.54	21.24	21.71	19.66	20.37	20.16	20.85	21.33
	8H	20.30	20.93	20.81	21.44	21.93	19.91	20.54	20.42	21.05	21.54
	12H	20.50	21.06	21.01	21.55	22.11	20.09	20.65	20.60	21.14	21.70
12H	4H	19.36	20.12	19.84	20.59	21.06	18.99	19.75	19.47	20.23	20.70
	6H	20.09	20.72	20.60	21.23	21.71	19.72	20.35	20.23	20.86	21.35
	8H	20.40	20.96	20.91	21.45	22.01	20.03	20.58	20.53	21.07	21.64