

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: P931189

Luminaire Tested: DFN2DS-SQ4F0-120DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931189
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-SQ4F0-120DS950-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

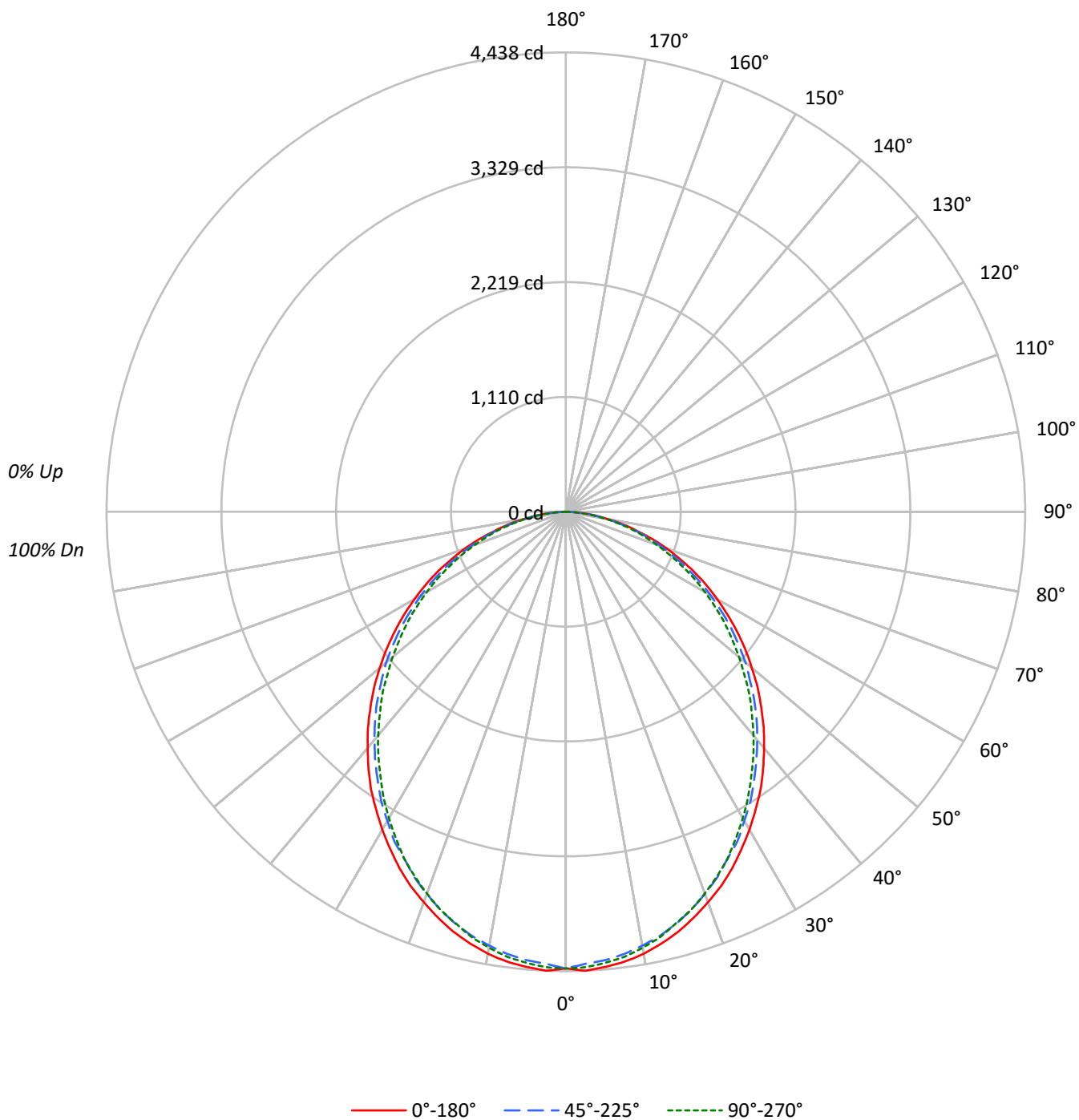
Lumens per Lamp: N/A
Luminaire Lumens: 11226.6 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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°	3096	3096	3096
5°	3108	3063	3081
10°	3090	3032	3047
15°	3051	2993	2990
20°	2997	2934	2931
25°	2943	2861	2861
30°	2874	2795	2771
35°	2809	2715	2675
40°	2728	2635	2585
45°	2649	2556	2493
50°	2561	2473	2385
55°	2471	2377	2289
60°	2370	2263	2179
65°	2262	2149	2050
70°	2124	2011	1916
75°	1932	1851	1806
80°	1715	1663	1577
85°	1399	1334	1196

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2649 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	415.3	3.7
10°-20°	1168.5	10.4
20°-30°	1717.2	15.3
30°-40°	1994.5	17.8
40°-50°	1992.0	17.7
50°-60°	1736.9	15.5
60°-70°	1284.0	11.4
70°-80°	726.4	6.5
80°-90°	191.7	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°	3301.0	29.4
0°-40°	5295.5	47.2
0°-60°	9024.4	80.4
0°-90°	11226.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11226.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4412	4412	4412	4412	4412	
5°	4412	4396	4349	4383	4375	419
15°	4200	4175	4120	4137	4116	1183
25°	3802	3768	3696	3704	3696	1749
35°	3280	3238	3170	3144	3123	2048
45°	2669	2639	2575	2529	2512	2060
55°	2020	1994	1943	1892	1871	1806
65°	1362	1336	1294	1256	1235	1347
75°	713	704	683	658	666	761
85°	174	170	166	153	149	204
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4412.5	4412.5	4412.5	4412.5	4412.5
2.5°	4438.1	4416.9	4370.2	4412.5	4404.4
5°	4412.5	4395.8	4349.0	4382.7	4374.6
7.5°	4382.7	4357.5	4310.7	4344.9	4336.4
10°	4336.4	4306.6	4255.8	4289.5	4277.0
12.5°	4272.4	4247.2	4196.4	4217.5	4208.9
15°	4200.4	4175.2	4119.8	4136.9	4115.8
17.5°	4111.3	4086.1	4030.7	4051.9	4030.7
20°	4013.6	3988.4	3929.0	3941.6	3925.0
22.5°	3916.4	3878.1	3822.7	3822.7	3814.2
25°	3801.5	3767.8	3695.8	3703.9	3695.8
27.5°	3674.2	3644.5	3589.6	3576.9	3555.8
30°	3547.2	3513.0	3449.5	3437.0	3419.9
32.5°	3411.3	3386.1	3318.1	3292.5	3275.4
35°	3279.8	3237.6	3169.5	3143.9	3122.8
37.5°	3131.3	3093.1	3025.0	2995.4	2974.2
40°	2978.7	2944.5	2876.5	2838.7	2821.6
42.5°	2830.2	2796.0	2728.4	2685.7	2660.5
45°	2669.0	2639.3	2575.3	2529.0	2511.9
47.5°	2511.9	2482.1	2414.2	2367.4	2342.2
50°	2346.2	2325.1	2265.6	2206.2	2185.0
52.5°	2185.0	2155.4	2100.5	2053.6	2023.9
55°	2019.8	1994.2	1943.3	1892.5	1871.3
57.5°	1854.2	1833.0	1777.6	1726.8	1709.7
60°	1688.5	1671.9	1612.5	1565.7	1553.0
62.5°	1527.4	1497.6	1455.4	1413.1	1396.0
65°	1362.2	1336.5	1294.2	1255.9	1234.8
67.5°	1192.5	1170.9	1133.1	1103.4	1086.3
70°	1035.3	1018.2	980.0	950.3	933.7
72.5°	874.2	857.1	835.9	806.3	793.6
75°	712.6	704.5	682.9	657.7	666.2
77.5°	568.5	551.4	542.9	530.2	517.7
80°	424.5	420.0	411.5	398.9	390.3
82.5°	288.5	288.5	284.5	267.4	267.4
85°	173.8	169.7	165.7	152.6	148.6
87.5°	76.5	67.9	59.4	46.8	42.3
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	15.21	16.82	15.57	17.13	17.45	14.76	16.38	15.13	16.69	17.00
	3H	16.96	18.41	17.34	18.74	19.10	16.47	17.92	16.85	18.25	18.61
	4H	17.61	18.97	18.00	19.32	19.70	17.11	18.48	17.51	18.83	19.20
	6H	18.07	19.34	18.49	19.71	20.10	17.57	18.84	17.98	19.21	19.60
	8H	18.22	19.43	18.64	19.82	20.22	17.71	18.93	18.14	19.31	19.71
	12H	18.31	19.47	18.74	19.85	20.28	17.80	18.96	18.23	19.34	19.77
4H	2H	15.77	17.14	16.17	17.49	17.86	15.42	16.79	15.82	17.13	17.51
	3H	17.74	18.89	18.15	19.29	19.69	17.34	18.48	17.75	18.88	19.28
	4H	18.52	19.56	18.95	19.97	20.41	18.10	19.13	18.53	19.55	19.98
	6H	19.12	20.02	19.57	20.46	20.92	18.69	19.59	19.14	20.03	20.49
	8H	19.31	20.15	19.77	20.60	21.06	18.87	19.72	19.33	20.16	20.62
	12H	19.44	20.20	19.92	20.67	21.14	18.99	19.75	19.47	20.22	20.69
8H	4H	18.79	19.64	19.26	20.08	20.55	18.42	19.27	18.88	19.71	20.17
	6H	19.51	20.21	20.00	20.70	21.18	19.13	19.83	19.62	20.32	20.79
	8H	19.77	20.40	20.28	20.91	21.39	19.38	20.01	19.89	20.51	21.00
	12H	19.97	20.53	20.47	21.02	21.58	19.55	20.11	20.06	20.60	21.16
12H	4H	18.82	19.58	19.30	20.06	20.53	18.46	19.22	18.94	19.69	20.16
	6H	19.55	20.19	20.06	20.69	21.18	19.19	19.82	19.70	20.32	20.81
	8H	19.87	20.43	20.37	20.92	21.48	19.49	20.05	20.00	20.54	21.10