

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: P931579

Luminaire Tested: DFN2DS-TR4F0-110DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931579
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-TR4F0-110DS930-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

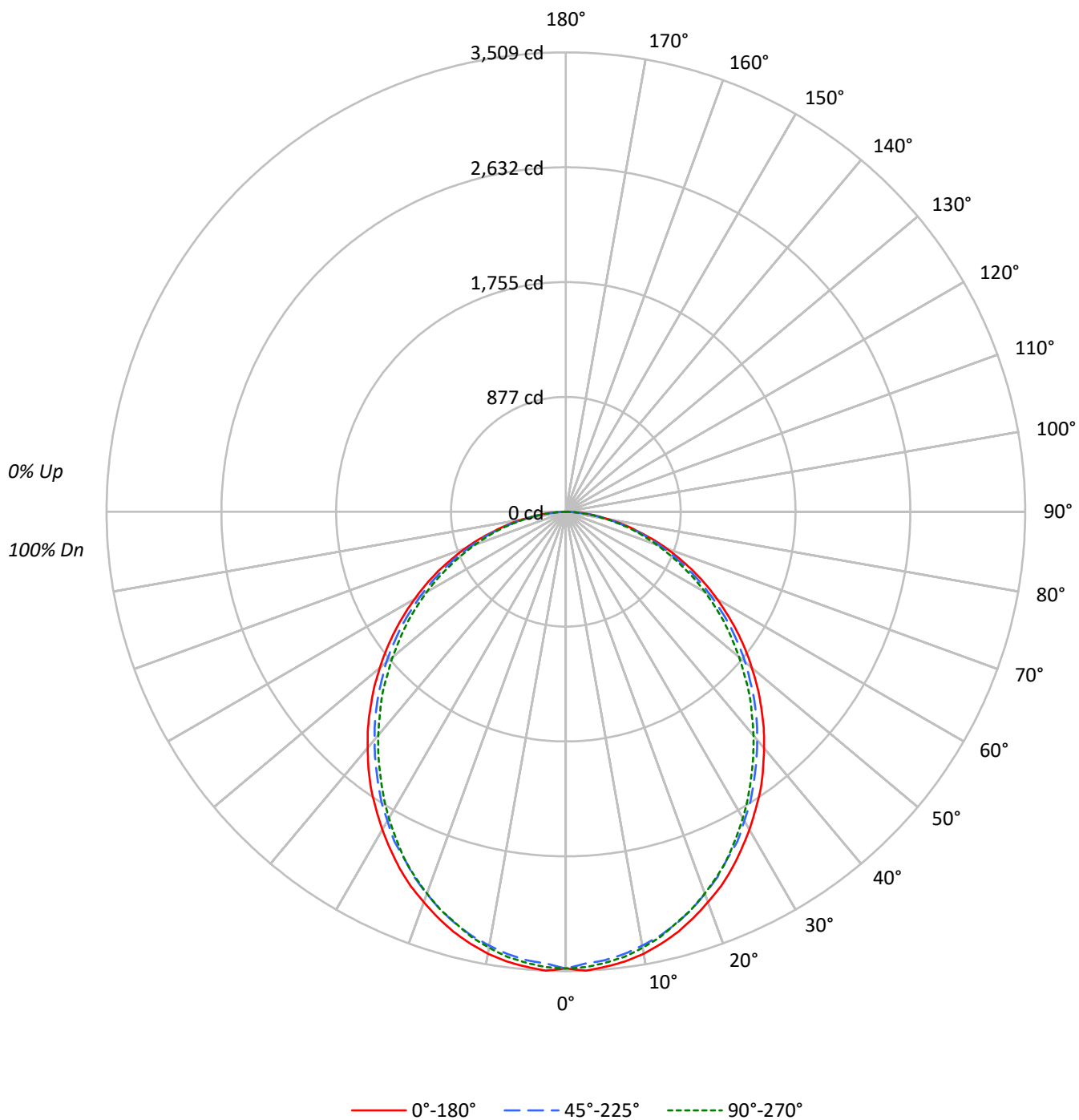
Lumens per Lamp: N/A
Luminaire Lumens: 8875.4 lumens
Efficiency: N/A
Efficacy: 74.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 118.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
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°	2771	2771	2771
5°	2782	2742	2758
10°	2765	2714	2728
15°	2731	2679	2676
20°	2683	2626	2623
25°	2634	2561	2561
30°	2572	2502	2480
35°	2515	2430	2394
40°	2442	2358	2313
45°	2371	2287	2231
50°	2293	2214	2135
55°	2212	2128	2049
60°	2121	2025	1951
65°	2024	1923	1835
70°	1901	1799	1714
75°	1729	1657	1617
80°	1535	1488	1412
85°	1252	1194	1070

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2371 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.3	3.7
10°-20°	923.8	10.4
20°-30°	1357.6	15.3
30°-40°	1576.7	17.8
40°-50°	1574.8	17.7
50°-60°	1373.2	15.5
60°-70°	1015.1	11.4
70°-80°	574.3	6.5
80°-90°	151.6	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°	2609.7	29.4
0°-40°	4186.4	47.2
0°-60°	7134.4	80.4
0°-90°	8875.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8875.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3488	3488	3488	3488	3488	
5°	3488	3475	3438	3465	3458	331
15°	3321	3301	3257	3270	3254	935
25°	3005	2979	2922	2928	2922	1383
35°	2593	2560	2506	2485	2469	1619
45°	2110	2086	2036	1999	1986	1628
55°	1597	1576	1536	1496	1479	1428
65°	1077	1057	1023	993	976	1065
75°	563	557	540	520	527	601
85°	137	134	131	121	117	162
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3488.4	3488.4	3488.4	3488.4	3488.4
2.5°	3508.6	3491.9	3454.9	3488.4	3481.9
5°	3488.4	3475.2	3438.2	3464.8	3458.5
7.5°	3464.8	3444.9	3407.9	3435.0	3428.2
10°	3428.2	3404.7	3364.5	3391.1	3381.2
12.5°	3377.7	3357.7	3317.5	3334.2	3327.5
15°	3320.7	3300.8	3257.0	3270.5	3253.8
17.5°	3250.2	3230.3	3186.6	3203.3	3186.6
20°	3173.0	3153.1	3106.1	3116.1	3102.9
22.5°	3096.2	3065.9	3022.1	3022.1	3015.3
25°	3005.4	2978.7	2921.8	2928.2	2921.8
27.5°	2904.7	2881.2	2837.7	2827.8	2811.1
30°	2804.3	2777.3	2727.1	2717.1	2703.6
32.5°	2696.8	2676.9	2623.2	2602.9	2589.3
35°	2592.9	2559.5	2505.7	2485.4	2468.7
37.5°	2475.5	2445.2	2391.5	2368.0	2351.3
40°	2354.9	2327.8	2274.1	2244.2	2230.7
42.5°	2237.4	2210.4	2157.0	2123.2	2103.3
45°	2110.0	2086.5	2036.0	1999.4	1985.8
47.5°	1985.8	1962.4	1908.6	1871.6	1851.6
50°	1854.9	1838.2	1791.1	1744.2	1727.5
52.5°	1727.5	1703.9	1660.6	1623.5	1600.0
55°	1596.8	1576.5	1536.4	1496.1	1479.4
57.5°	1465.9	1449.2	1405.4	1365.1	1351.6
60°	1334.9	1321.8	1274.7	1237.7	1227.8
62.5°	1207.5	1184.0	1150.5	1117.1	1103.6
65°	1076.9	1056.6	1023.2	992.9	976.2
67.5°	942.7	925.7	895.8	872.3	858.8
70°	818.5	805.0	774.7	751.3	738.1
72.5°	691.1	677.6	660.9	637.4	627.4
75°	563.3	557.0	539.9	520.0	526.7
77.5°	449.5	435.9	429.2	419.2	409.3
80°	335.6	332.0	325.3	315.3	308.6
82.5°	228.1	228.1	224.9	211.4	211.4
85°	137.4	134.1	131.0	120.6	117.4
87.5°	60.5	53.7	46.9	37.0	33.4
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	14.82	16.43	15.19	16.75	17.06	14.38	15.99	14.74	16.30	16.62
	3H	16.57	18.03	16.95	18.36	18.72	16.08	17.54	16.46	17.86	18.22
	4H	17.22	18.59	17.62	18.94	19.31	16.73	18.09	17.12	18.44	18.82
	6H	17.69	18.96	18.10	19.32	19.71	17.19	18.46	17.60	18.82	19.21
	8H	17.83	19.04	18.26	19.43	19.83	17.33	18.54	17.75	18.93	19.33
	12H	17.92	19.08	18.35	19.46	19.89	17.41	18.57	17.84	18.95	19.38
4H	2H	15.38	16.75	15.78	17.10	17.48	15.03	16.40	15.43	16.75	17.12
	3H	17.36	18.51	17.77	18.90	19.30	16.95	18.10	17.36	18.50	18.90
	4H	18.14	19.17	18.57	19.59	20.02	17.71	18.75	18.14	19.16	19.60
	6H	18.73	19.64	19.19	20.08	20.53	18.30	19.20	18.75	19.65	20.10
	8H	18.92	19.77	19.38	20.21	20.68	18.48	19.33	18.94	19.77	20.24
	12H	19.05	19.81	19.53	20.29	20.76	18.60	19.36	19.08	19.84	20.31
8H	4H	18.41	19.26	18.87	19.70	20.16	18.04	18.88	18.50	19.32	19.79
	6H	19.12	19.83	19.62	20.32	20.79	18.74	19.45	19.24	19.93	20.41
	8H	19.38	20.01	19.89	20.52	21.01	18.99	19.62	19.50	20.13	20.61
	12H	19.58	20.14	20.09	20.63	21.19	19.17	19.73	19.68	20.22	20.78
12H	4H	18.44	19.20	18.92	19.67	20.14	18.07	18.83	18.55	19.31	19.78
	6H	19.17	19.80	19.68	20.31	20.79	18.80	19.43	19.31	19.94	20.43
	8H	19.48	20.04	19.99	20.53	21.09	19.11	19.66	19.61	20.15	20.71