

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: P931597

Luminaire Tested: DFN2DS-TR4F0-120DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931597
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-TR4F0-120DS930-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

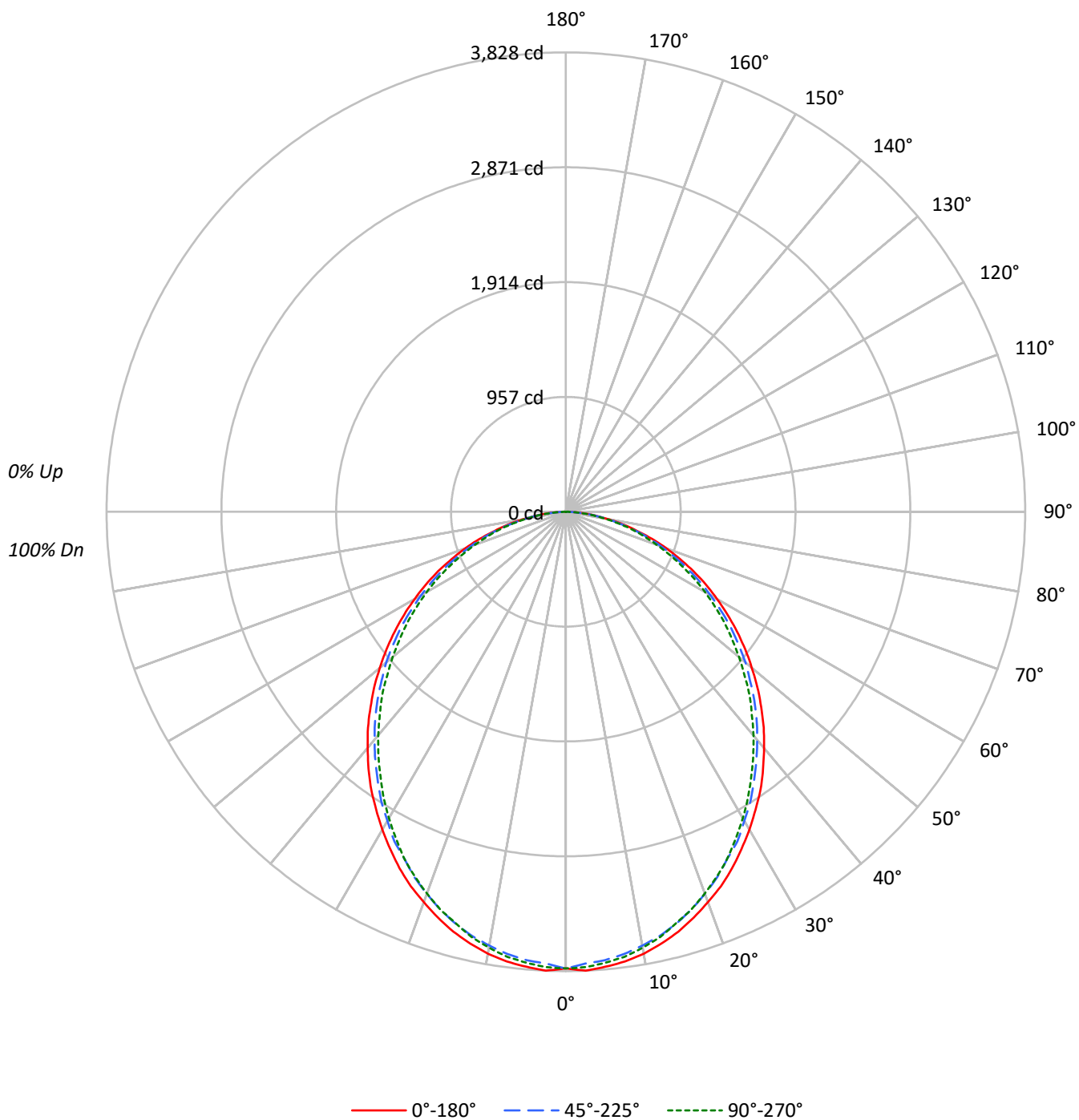
Lumens per Lamp: N/A
Luminaire Lumens: 9682.2 lumens
Efficiency: N/A
Efficacy: 73.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 131.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3023	3023	3023
5°	3035	2991	3009
10°	3017	2961	2976
15°	2979	2922	2919
20°	2926	2865	2862
25°	2874	2794	2794
30°	2806	2729	2706
35°	2743	2651	2612
40°	2664	2573	2524
45°	2586	2495	2434
50°	2501	2415	2329
55°	2413	2321	2235
60°	2314	2209	2128
65°	2208	2098	2002
70°	2074	1963	1870
75°	1886	1808	1764
80°	1675	1624	1540
85°	1366	1303	1168

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2586 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	358.2	3.7
10°-20°	1007.7	10.4
20°-30°	1481.0	15.3
30°-40°	1720.1	17.8
40°-50°	1718.0	17.7
50°-60°	1498.0	15.5
60°-70°	1107.4	11.4
70°-80°	626.5	6.5
80°-90°	165.4	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°	2846.9	29.4
0°-40°	4567.0	47.2
0°-60°	7783.0	80.4
0°-90°	9682.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9682.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3806	3806	3806	3806	3806	
5°	3806	3791	3751	3780	3773	361
15°	3623	3601	3553	3568	3550	1020
25°	3279	3250	3187	3194	3187	1509
35°	2829	2792	2734	2711	2693	1766
45°	2302	2276	2221	2181	2166	1776
55°	1742	1720	1676	1632	1614	1557
65°	1175	1153	1116	1083	1065	1162
75°	615	608	589	567	575	656
85°	150	146	143	132	128	176
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3805.5	3805.5	3805.5	3805.5	3805.5
2.5°	3827.6	3809.3	3769.0	3805.5	3798.5
5°	3805.5	3791.1	3750.7	3779.8	3772.8
7.5°	3779.8	3758.0	3717.7	3747.2	3739.9
10°	3739.9	3714.2	3670.4	3699.4	3688.6
12.5°	3684.7	3662.9	3619.1	3637.3	3629.9
15°	3622.6	3600.8	3553.1	3567.8	3549.6
17.5°	3545.7	3524.0	3476.2	3494.5	3476.2
20°	3461.5	3439.7	3388.5	3399.4	3385.0
22.5°	3377.6	3344.6	3296.8	3296.8	3289.5
25°	3278.6	3249.5	3187.4	3194.4	3187.4
27.5°	3168.7	3143.1	3095.8	3084.9	3066.7
30°	3059.3	3029.8	2975.0	2964.2	2949.4
32.5°	2942.0	2920.3	2861.6	2839.5	2824.8
35°	2828.6	2792.2	2733.5	2711.4	2693.2
37.5°	2700.5	2667.6	2608.9	2583.3	2565.0
40°	2569.0	2539.5	2480.8	2448.2	2433.4
42.5°	2440.8	2411.3	2353.1	2316.2	2294.5
45°	2301.8	2276.2	2221.0	2181.1	2166.4
47.5°	2166.4	2140.7	2082.1	2041.7	2020.0
50°	2023.5	2005.2	1954.0	1902.7	1884.4
52.5°	1884.4	1858.9	1811.5	1771.1	1745.5
55°	1742.0	1719.9	1676.0	1632.1	1613.9
57.5°	1599.1	1580.9	1533.1	1489.2	1474.5
60°	1456.2	1441.9	1390.6	1350.3	1339.4
62.5°	1317.3	1291.6	1255.2	1218.7	1203.9
65°	1174.8	1152.7	1116.1	1083.1	1065.0
67.5°	1028.4	1009.8	977.2	951.6	936.8
70°	892.9	878.2	845.2	819.6	805.2
72.5°	754.0	739.2	720.9	695.4	684.4
75°	614.6	607.6	588.9	567.2	574.6
77.5°	490.3	475.6	468.2	457.3	446.5
80°	366.1	362.2	354.9	344.0	336.6
82.5°	248.8	248.8	245.4	230.6	230.6
85°	149.9	146.4	142.9	131.6	128.1
87.5°	66.0	58.6	51.3	40.3	36.5
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	15.13	16.74	15.49	17.05	17.37	14.68	16.29	15.05	16.61	16.92
	3H	16.88	18.33	17.25	18.66	19.02	16.39	17.84	16.76	18.17	18.53
	4H	17.52	18.89	17.92	19.24	19.62	17.03	18.40	17.43	18.74	19.12
	6H	17.99	19.26	18.40	19.62	20.02	17.49	18.76	17.90	19.12	19.51
	8H	18.13	19.35	18.56	19.73	20.13	17.63	18.84	18.06	19.23	19.63
	12H	18.23	19.39	18.65	19.77	20.20	17.71	18.87	18.14	19.25	19.68
4H	2H	15.69	17.06	16.09	17.40	17.78	15.33	16.70	15.73	17.05	17.43
	3H	17.66	18.81	18.07	19.21	19.61	17.26	18.40	17.66	18.80	19.20
	4H	18.44	19.47	18.87	19.89	20.32	18.01	19.05	18.45	19.46	19.90
	6H	19.03	19.94	19.49	20.38	20.84	18.60	19.51	19.06	19.95	20.40
	8H	19.22	20.07	19.68	20.51	20.98	18.79	19.63	19.25	20.08	20.54
	12H	19.36	20.12	19.84	20.59	21.06	18.90	19.66	19.38	20.14	20.61
8H	4H	18.71	19.56	19.17	20.00	20.47	18.34	19.18	18.80	19.63	20.09
	6H	19.43	20.13	19.92	20.62	21.09	19.04	19.75	19.54	20.24	20.71
	8H	19.69	20.32	20.19	20.82	21.31	19.29	19.92	19.80	20.43	20.92
	12H	19.88	20.44	20.39	20.93	21.49	19.47	20.03	19.98	20.52	21.08
12H	4H	18.74	19.50	19.22	19.97	20.44	18.37	19.13	18.85	19.61	20.08
	6H	19.47	20.10	19.98	20.61	21.10	19.10	19.73	19.61	20.24	20.73
	8H	19.79	20.34	20.29	20.83	21.39	19.41	19.97	19.91	20.46	21.02