

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: P931565

Luminaire Tested: DFN2DS-TR4F0-100DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931565
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-TR4F0-100DS940-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

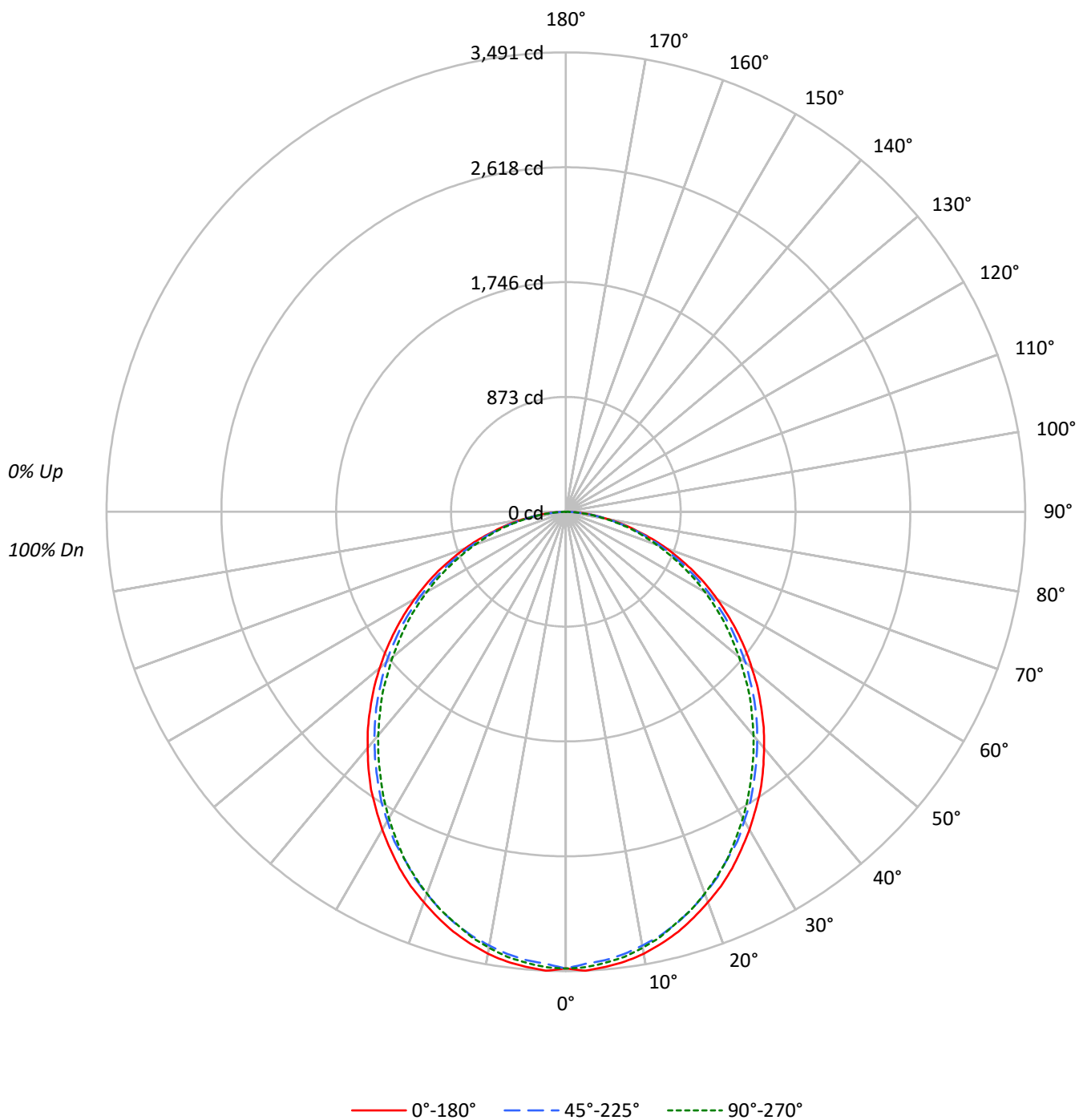
Lumens per Lamp: N/A
Luminaire Lumens: 8830.8 lumens
Efficiency: N/A
Efficacy: 82.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 107.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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°	2757	2757	2757
5°	2768	2728	2744
10°	2752	2700	2714
15°	2717	2665	2663
20°	2669	2613	2610
25°	2621	2548	2548
30°	2560	2489	2468
35°	2502	2418	2382
40°	2430	2346	2302
45°	2359	2276	2220
50°	2281	2203	2124
55°	2201	2117	2039
60°	2110	2015	1941
65°	2014	1914	1826
70°	1892	1791	1706
75°	1720	1649	1608
80°	1528	1480	1405
85°	1246	1188	1066

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2359 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.7	3.7
10°-20°	919.1	10.4
20°-30°	1350.8	15.3
30°-40°	1568.8	17.8
40°-50°	1566.9	17.7
50°-60°	1366.3	15.5
60°-70°	1010.0	11.4
70°-80°	571.4	6.5
80°-90°	150.8	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°	2596.6	29.4
0°-40°	4165.4	47.2
0°-60°	7098.5	80.4
0°-90°	8830.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8830.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3471	3471	3471	3471	3471	
5°	3471	3458	3421	3448	3441	329
15°	3304	3284	3241	3254	3238	931
25°	2990	2964	2907	2914	2907	1376
35°	2580	2547	2493	2473	2456	1611
45°	2099	2076	2026	1989	1976	1620
55°	1589	1569	1529	1489	1472	1420
65°	1072	1051	1018	988	971	1059
75°	560	554	537	517	524	598
85°	137	134	130	120	117	161
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3470.9	3470.9	3470.9	3470.9	3470.9
2.5°	3491.0	3474.3	3437.5	3470.9	3464.4
5°	3470.9	3457.7	3420.9	3447.5	3441.1
7.5°	3447.5	3427.6	3390.8	3417.7	3411.0
10°	3411.0	3387.6	3347.6	3374.2	3364.3
12.5°	3360.7	3340.9	3300.8	3317.5	3310.7
15°	3304.1	3284.3	3240.6	3254.1	3237.5
17.5°	3233.9	3214.1	3170.5	3187.2	3170.5
20°	3157.1	3137.3	3090.5	3100.4	3087.3
22.5°	3080.6	3050.6	3006.9	3006.9	3000.2
25°	2990.3	2963.8	2907.1	2913.5	2907.1
27.5°	2890.1	2866.7	2823.5	2813.6	2797.0
30°	2790.3	2763.3	2713.4	2703.5	2690.0
32.5°	2683.3	2663.5	2610.0	2589.8	2576.4
35°	2579.9	2546.7	2493.1	2473.0	2456.3
37.5°	2463.1	2432.9	2379.5	2356.1	2339.4
40°	2343.0	2316.1	2262.6	2232.9	2219.5
42.5°	2226.2	2199.2	2146.2	2112.5	2092.7
45°	2099.4	2076.0	2025.7	1989.2	1975.9
47.5°	1975.9	1952.5	1899.0	1862.1	1842.3
50°	1845.5	1828.9	1782.1	1735.4	1718.8
52.5°	1718.8	1695.4	1652.2	1615.4	1592.0
55°	1588.8	1568.7	1528.6	1488.6	1472.0
57.5°	1458.5	1441.8	1398.3	1358.3	1344.9
60°	1328.2	1315.1	1268.3	1231.5	1221.6
62.5°	1201.4	1178.1	1144.8	1111.5	1098.1
65°	1071.5	1051.3	1018.0	987.9	971.3
67.5°	938.0	921.0	891.3	867.9	854.4
70°	814.4	800.9	770.9	747.5	734.4
72.5°	687.6	674.2	657.6	634.2	624.2
75°	560.5	554.2	537.2	517.4	524.0
77.5°	447.2	433.8	427.0	417.1	407.2
80°	333.9	330.4	323.6	313.7	307.0
82.5°	227.0	227.0	223.8	210.3	210.3
85°	136.7	133.5	130.3	120.1	116.9
87.5°	60.2	53.4	46.7	36.8	33.3
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	14.81	16.42	15.17	16.73	17.05	14.36	15.97	14.73	16.29	16.60
	3H	16.56	18.01	16.93	18.34	18.70	16.07	17.52	16.44	17.85	18.21
	4H	17.20	18.57	17.60	18.92	19.30	16.71	18.08	17.11	18.42	18.80
	6H	17.67	18.94	18.08	19.31	19.70	17.17	18.44	17.58	18.80	19.19
	8H	17.81	19.03	18.24	19.41	19.81	17.31	18.52	17.74	18.91	19.31
	12H	17.91	19.07	18.33	19.45	19.88	17.39	18.55	17.82	18.93	19.36
4H	2H	15.37	16.74	15.77	17.08	17.46	15.01	16.38	15.41	16.73	17.11
	3H	17.34	18.49	17.75	18.89	19.29	16.94	18.08	17.34	18.48	18.88
	4H	18.12	19.15	18.55	19.57	20.00	17.69	18.73	18.13	19.14	19.58
	6H	18.72	19.62	19.17	20.06	20.52	18.28	19.19	18.74	19.63	20.08
	8H	18.90	19.75	19.37	20.19	20.66	18.47	19.31	18.93	19.76	20.22
	12H	19.04	19.80	19.52	20.27	20.74	18.58	19.34	19.06	19.82	20.29
8H	4H	18.39	19.24	18.85	19.68	20.15	18.02	18.86	18.48	19.31	19.77
	6H	19.11	19.81	19.60	20.30	20.77	18.72	19.43	19.22	19.92	20.39
	8H	19.37	20.00	19.88	20.50	20.99	18.97	19.60	19.48	20.11	20.60
	12H	19.57	20.12	20.07	20.61	21.17	19.15	19.71	19.66	20.20	20.76
12H	4H	18.42	19.18	18.90	19.65	20.12	18.05	18.81	18.53	19.29	19.76
	6H	19.15	19.78	19.66	20.29	20.78	18.78	19.41	19.29	19.92	20.41
	8H	19.47	20.02	19.97	20.51	21.08	19.09	19.65	19.59	20.14	20.70