

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: P931551

Luminaire Tested: DFN2DS-TR4F0-100DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931551
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-TR4F0-100DS830-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

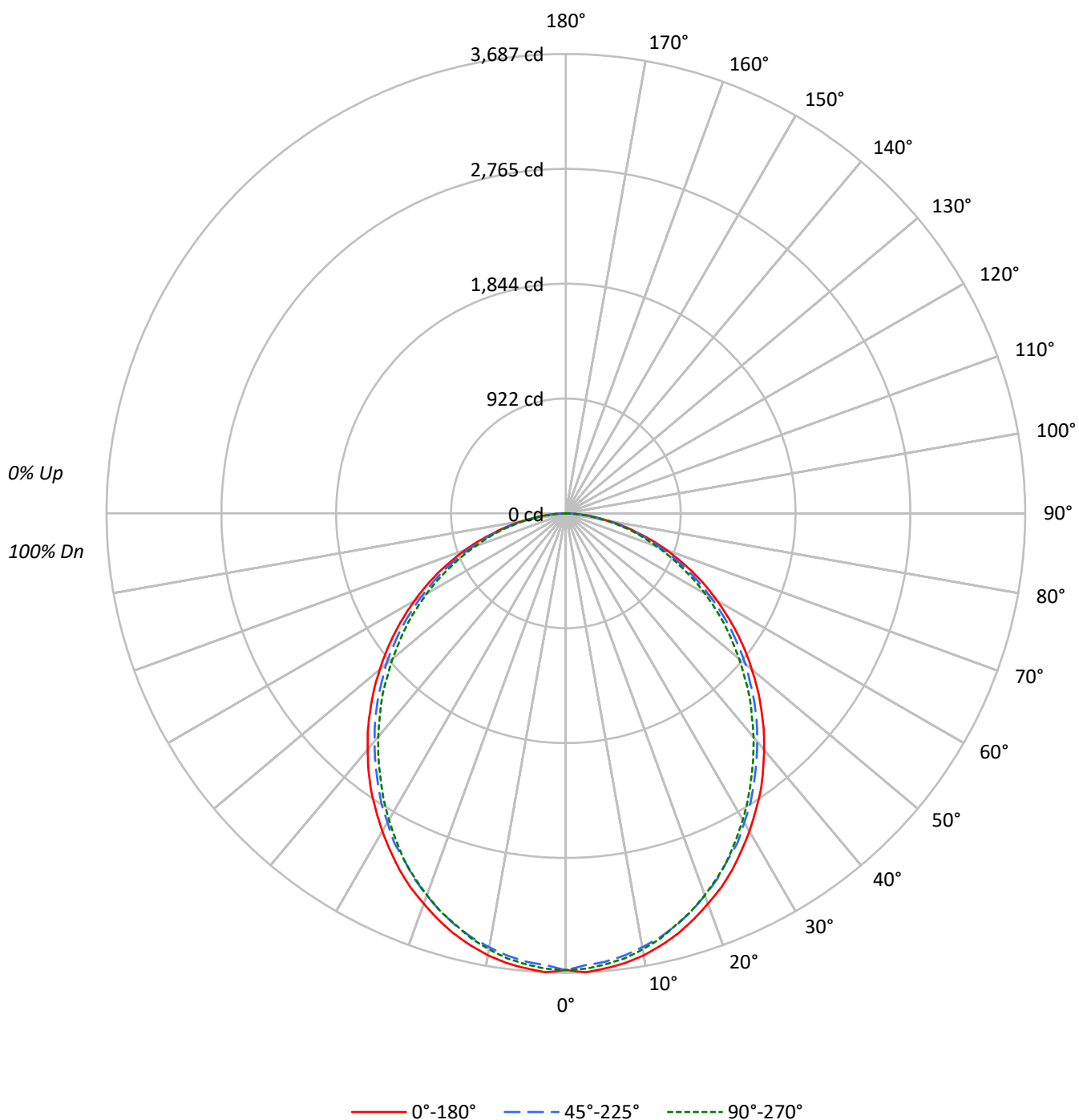
Lumens per Lamp: N/A
Luminaire Lumens: 9325.8 lumens
Efficiency: N/A
Efficacy: 86.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P931551

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-FLL

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°	2912	2912	2912
5°	2923	2881	2898
10°	2906	2852	2866
15°	2870	2815	2812
20°	2819	2759	2756
25°	2768	2691	2691
30°	2703	2629	2606
35°	2642	2553	2516
40°	2566	2478	2431
45°	2491	2404	2344
50°	2409	2326	2243
55°	2324	2236	2153
60°	2229	2128	2050
65°	2127	2021	1928
70°	1998	1891	1801
75°	1817	1741	1699
80°	1613	1564	1483
85°	1315	1254	1125

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2491 cd/sqm

TEST NUMBER: P931551

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.0	3.7
10°-20°	970.7	10.4
20°-30°	1426.5	15.3
30°-40°	1656.8	17.8
40°-50°	1654.7	17.7
50°-60°	1442.9	15.5
60°-70°	1066.6	11.4
70°-80°	603.5	6.5
80°-90°	159.3	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°	2742.1	29.4
0°-40°	4398.9	47.2
0°-60°	7496.5	80.4
0°-90°	9325.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9325.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3665	3665	3665	3665	3665	
5°	3665	3652	3613	3641	3634	348
15°	3489	3468	3422	3436	3419	983
25°	3158	3130	3070	3077	3070	1453
35°	2724	2689	2633	2612	2594	1701
45°	2217	2192	2139	2101	2087	1711
55°	1678	1657	1614	1572	1554	1500
65°	1132	1110	1075	1043	1026	1119
75°	592	585	567	546	553	632
85°	144	141	138	127	123	170
90°	0	0	0	0	0	

TEST NUMBER: P931551

CATALOG NUMBER: DFN2DS-TR4F0-100DS830-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3665.4	3665.4	3665.4	3665.4	3665.4
2.5°	3686.7	3669.1	3630.2	3665.4	3658.6
5°	3665.4	3651.6	3612.7	3640.7	3634.0
7.5°	3640.7	3619.7	3580.8	3609.3	3602.2
10°	3602.2	3577.5	3535.2	3563.3	3552.8
12.5°	3549.1	3528.2	3485.9	3503.5	3496.3
15°	3489.3	3468.3	3422.3	3436.5	3419.0
17.5°	3415.2	3394.3	3348.2	3365.9	3348.2
20°	3334.0	3313.1	3263.7	3274.2	3260.4
22.5°	3253.3	3221.5	3175.5	3175.5	3168.4
25°	3158.0	3129.9	3070.1	3076.8	3070.1
27.5°	3052.1	3027.4	2981.8	2971.4	2953.7
30°	2946.7	2918.2	2865.5	2855.0	2840.8
32.5°	2833.7	2812.8	2756.3	2735.0	2720.8
35°	2724.5	2689.4	2632.9	2611.6	2594.0
37.5°	2601.1	2569.3	2512.9	2488.2	2470.6
40°	2474.4	2445.9	2389.5	2358.1	2343.9
42.5°	2350.9	2322.5	2266.5	2230.9	2210.0
45°	2217.1	2192.4	2139.3	2100.8	2086.6
47.5°	2086.6	2061.9	2005.4	1966.5	1945.6
50°	1949.0	1931.4	1882.0	1832.7	1815.1
52.5°	1815.1	1790.5	1744.8	1706.0	1681.3
55°	1677.9	1656.6	1614.3	1572.0	1554.5
57.5°	1540.3	1522.6	1476.7	1434.5	1420.3
60°	1402.6	1388.8	1339.4	1300.5	1290.1
62.5°	1268.8	1244.1	1209.0	1173.8	1159.6
65°	1131.5	1110.2	1075.1	1043.3	1025.7
67.5°	990.6	972.6	941.2	916.6	902.3
70°	860.0	845.8	814.1	789.4	775.5
72.5°	726.2	712.0	694.4	669.8	659.2
75°	592.0	585.3	567.3	546.4	553.4
77.5°	472.3	458.1	450.9	440.5	430.0
80°	352.6	348.9	341.8	331.3	324.2
82.5°	239.7	239.7	236.3	222.1	222.1
85°	144.3	141.0	137.6	126.8	123.4
87.5°	63.6	56.4	49.4	38.9	35.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931551

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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	15.00	16.61	15.36	16.92	17.23	14.55	16.16	14.92	16.48	16.79
	3H	16.75	18.20	17.12	18.53	18.89	16.26	17.71	16.63	18.04	18.40
	4H	17.39	18.76	17.79	19.11	19.49	16.90	18.27	17.30	18.61	18.99
	6H	17.86	19.13	18.27	19.49	19.89	17.36	18.63	17.77	18.99	19.38
	8H	18.00	19.22	18.43	19.60	20.00	17.50	18.71	17.93	19.10	19.50
	12H	18.09	19.25	18.52	19.64	20.07	17.58	18.74	18.01	19.12	19.55
4H	2H	15.56	16.93	15.95	17.27	17.65	15.20	16.57	15.60	16.92	17.30
	3H	17.53	18.68	17.94	19.08	19.48	17.12	18.27	17.53	18.67	19.07
	4H	18.31	19.34	18.74	19.76	20.19	17.88	18.92	18.32	19.33	19.77
	6H	18.90	19.81	19.36	20.25	20.71	18.47	19.38	18.93	19.82	20.27
	8H	19.09	19.94	19.55	20.38	20.85	18.66	19.50	19.12	19.95	20.41
	12H	19.23	19.99	19.71	20.46	20.93	18.77	19.53	19.25	20.01	20.48
8H	4H	18.58	19.43	19.04	19.87	20.34	18.21	19.05	18.67	19.50	19.96
	6H	19.30	20.00	19.79	20.49	20.96	18.91	19.62	19.41	20.11	20.58
	8H	19.55	20.19	20.06	20.69	21.18	19.16	19.79	19.67	20.30	20.79
	12H	19.75	20.31	20.26	20.80	21.36	19.34	19.90	19.85	20.39	20.95
12H	4H	18.61	19.37	19.09	19.84	20.31	18.24	19.00	18.72	19.48	19.95
	6H	19.34	19.97	19.85	20.48	20.97	18.97	19.60	19.48	20.11	20.60
	8H	19.65	20.21	20.16	20.70	21.26	19.28	19.83	19.78	20.33	20.89