

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: P931561

Luminaire Tested: DFN2DS-TR4F0-100DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931561
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-TR4F0-100DS930-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

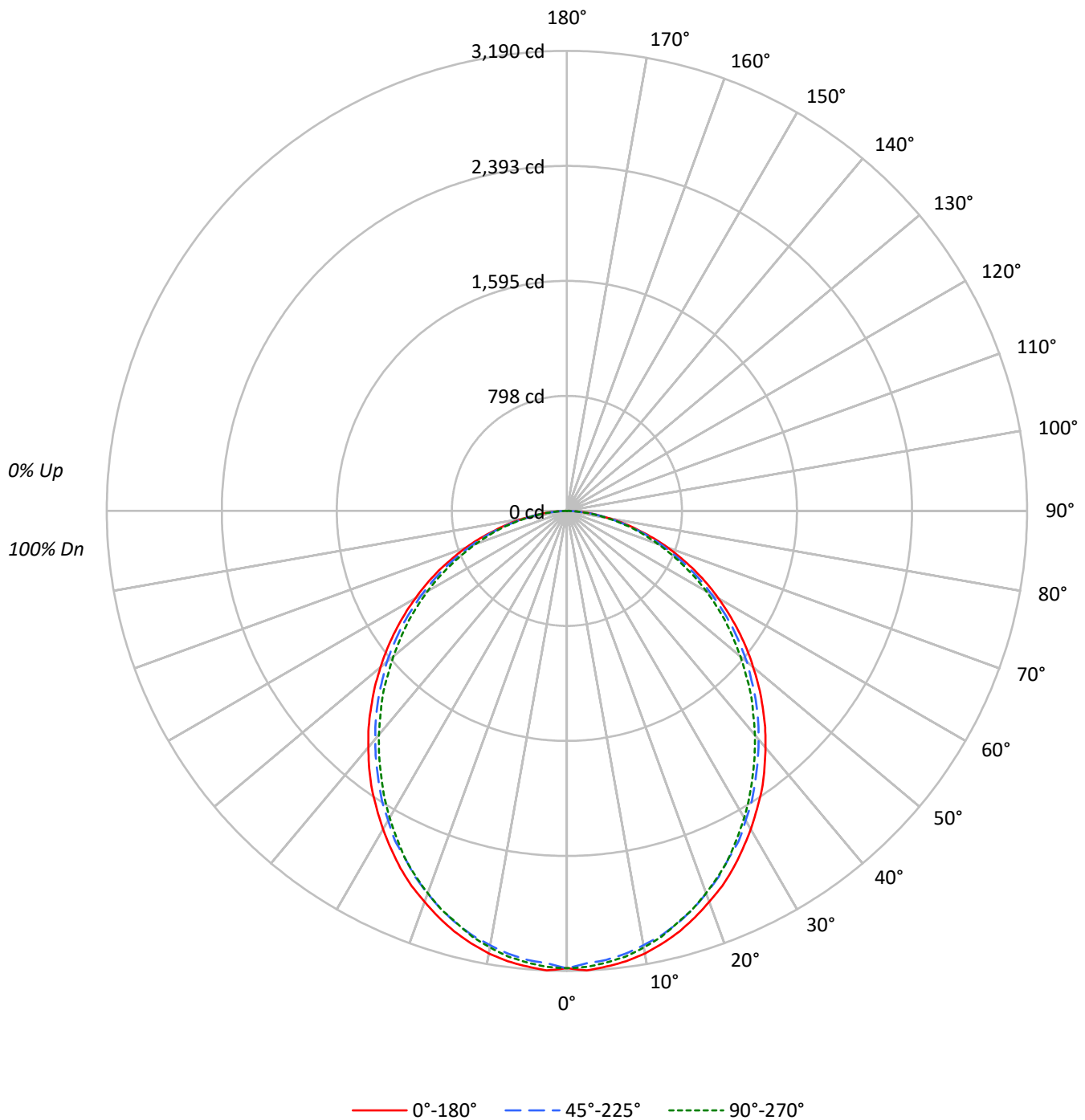
Lumens per Lamp: N/A
Luminaire Lumens: 8068.5 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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°	2519	2519	2519
5°	2529	2493	2507
10°	2514	2467	2480
15°	2483	2435	2433
20°	2439	2387	2385
25°	2395	2328	2328
30°	2339	2274	2255
35°	2286	2209	2177
40°	2220	2144	2103
45°	2155	2079	2028
50°	2084	2012	1941
55°	2011	1935	1863
60°	1928	1841	1773
65°	1840	1749	1668
70°	1728	1636	1559
75°	1572	1506	1470
80°	1396	1353	1283
85°	1138	1086	973

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2155 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.5	3.7
10°-20°	839.8	10.4
20°-30°	1234.2	15.3
30°-40°	1433.4	17.8
40°-50°	1431.6	17.7
50°-60°	1248.3	15.5
60°-70°	922.8	11.4
70°-80°	522.1	6.5
80°-90°	137.8	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°	2372.4	29.4
0°-40°	3805.8	47.2
0°-60°	6485.8	80.4
0°-90°	8068.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8068.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3171	3171	3171	3171	3171	
5°	3171	3159	3126	3150	3144	301
15°	3019	3001	2961	2973	2958	850
25°	2732	2708	2656	2662	2656	1257
35°	2357	2327	2278	2260	2244	1472
45°	1918	1897	1851	1818	1805	1480
55°	1452	1433	1397	1360	1345	1298
65°	979	961	930	903	888	968
75°	512	506	491	473	479	547
85°	125	122	119	110	107	147
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3171.2	3171.2	3171.2	3171.2	3171.2
2.5°	3189.7	3174.4	3140.8	3171.2	3165.4
5°	3171.2	3159.3	3125.6	3149.9	3144.0
7.5°	3149.9	3131.7	3098.1	3122.7	3116.6
10°	3116.6	3095.2	3058.6	3082.9	3073.9
12.5°	3070.6	3052.5	3015.9	3031.1	3025.0
15°	3018.8	3000.7	2960.9	2973.2	2958.0
17.5°	2954.8	2936.7	2896.8	2912.1	2896.8
20°	2884.5	2866.4	2823.7	2832.8	2820.8
22.5°	2814.7	2787.2	2747.4	2747.4	2741.3
25°	2732.2	2707.9	2656.2	2662.0	2656.2
27.5°	2640.6	2619.2	2579.8	2570.8	2555.5
30°	2549.4	2524.8	2479.1	2470.1	2457.8
32.5°	2451.7	2433.6	2384.7	2366.3	2354.0
35°	2357.2	2326.8	2277.9	2259.5	2244.3
37.5°	2250.5	2222.9	2174.1	2152.7	2137.5
40°	2140.8	2116.1	2067.3	2040.2	2027.9
42.5°	2034.0	2009.4	1960.9	1930.2	1912.1
45°	1918.2	1896.8	1850.9	1817.5	1805.3
47.5°	1805.3	1784.0	1735.1	1701.4	1683.3
50°	1686.2	1671.0	1628.3	1585.6	1570.4
52.5°	1570.4	1549.1	1509.5	1476.0	1454.6
55°	1451.7	1433.3	1396.7	1360.1	1344.9
57.5°	1332.6	1317.4	1277.6	1241.1	1228.8
60°	1213.5	1201.6	1158.8	1125.2	1116.1
62.5°	1097.7	1076.4	1046.0	1015.6	1003.3
65°	979.0	960.6	930.2	902.6	887.5
67.5°	857.1	841.5	814.3	793.0	780.7
70°	744.1	731.8	704.3	683.0	671.0
72.5°	628.3	616.0	600.8	579.5	570.3
75°	512.1	506.4	490.8	472.7	478.8
77.5°	408.6	396.3	390.1	381.1	372.0
80°	305.1	301.9	295.7	286.6	280.5
82.5°	207.4	207.4	204.5	192.2	192.2
85°	124.9	122.0	119.1	109.7	106.8
87.5°	55.0	48.8	42.7	33.7	30.4
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	14.49	16.10	14.86	16.42	16.73	14.05	15.66	14.41	15.97	16.29
	3H	16.24	17.70	16.62	18.02	18.38	15.75	17.21	16.13	17.53	17.89
	4H	16.89	18.26	17.29	18.61	18.98	16.39	17.76	16.79	18.11	18.49
	6H	17.36	18.63	17.77	18.99	19.38	16.86	18.13	17.27	18.49	18.88
	8H	17.50	18.71	17.93	19.10	19.50	17.00	18.21	17.42	18.60	19.00
	12H	17.59	18.75	18.02	19.13	19.56	17.08	18.24	17.51	18.62	19.05
4H	2H	15.05	16.42	15.45	16.77	17.15	14.70	16.07	15.10	16.42	16.79
	3H	17.03	18.17	17.44	18.57	18.97	16.62	17.77	17.03	18.17	18.57
	4H	17.80	18.84	18.24	19.25	19.69	17.38	18.42	17.81	18.83	19.27
	6H	18.40	19.31	18.86	19.75	20.20	17.97	18.87	18.42	19.31	19.77
	8H	18.59	19.44	19.05	19.88	20.35	18.15	19.00	18.61	19.44	19.91
	12H	18.72	19.48	19.20	19.96	20.43	18.27	19.03	18.75	19.51	19.98
8H	4H	18.08	18.92	18.54	19.37	19.83	17.70	18.55	18.16	18.99	19.46
	6H	18.79	19.50	19.29	19.98	20.46	18.41	19.11	18.90	19.60	20.08
	8H	19.05	19.68	19.56	20.19	20.68	18.66	19.29	19.17	19.80	20.28
	12H	19.25	19.81	19.76	20.30	20.86	18.84	19.40	19.35	19.89	20.45
12H	4H	18.10	18.86	18.58	19.34	19.81	17.74	18.50	18.22	18.98	19.44
	6H	18.84	19.47	19.35	19.98	20.46	18.47	19.10	18.98	19.61	20.09
	8H	19.15	19.71	19.66	20.20	20.76	18.77	19.33	19.28	19.82	20.38