

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: P931545

Luminaire Tested: DFN2DS-TR4F0-090DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931545
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-TR4F0-090DS935-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

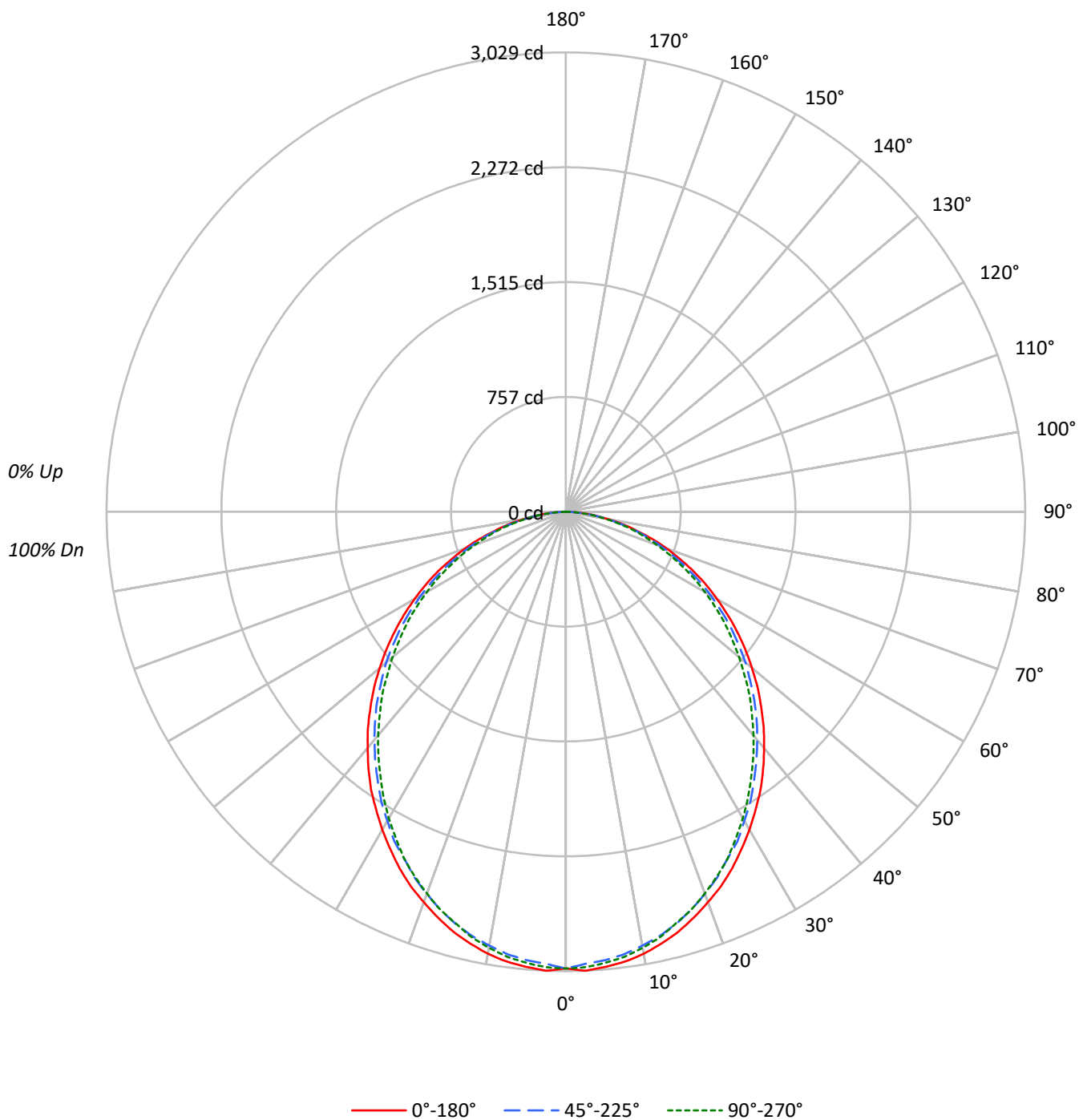
Lumens per Lamp: N/A
Luminaire Lumens: 7662.6 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 93.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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°	2393	2393	2393
5°	2402	2367	2381
10°	2388	2343	2355
15°	2358	2313	2310
20°	2316	2267	2265
25°	2274	2211	2211
30°	2221	2160	2141
35°	2171	2098	2067
40°	2108	2036	1997
45°	2047	1975	1926
50°	1979	1911	1843
55°	1910	1837	1769
60°	1831	1749	1684
65°	1748	1660	1584
70°	1642	1554	1480
75°	1493	1431	1396
80°	1325	1285	1219
85°	1081	1031	924

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2047 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.5	3.7
10°-20°	797.5	10.4
20°-30°	1172.1	15.3
30°-40°	1361.3	17.8
40°-50°	1359.6	17.7
50°-60°	1185.5	15.5
60°-70°	876.4	11.4
70°-80°	495.8	6.5
80°-90°	130.9	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°	2253.1	29.4
0°-40°	3614.4	47.2
0°-60°	6159.5	80.4
0°-90°	7662.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7662.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3012	3012	3012	3012	3012	
5°	3012	3000	2968	2991	2986	286
15°	2867	2850	2812	2824	2809	807
25°	2595	2572	2523	2528	2523	1194
35°	2239	2210	2163	2146	2131	1398
45°	1822	1801	1758	1726	1714	1406
55°	1379	1361	1326	1292	1277	1233
65°	930	912	883	857	843	919
75°	486	481	466	449	455	519
85°	119	116	113	104	101	139
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3011.6	3011.6	3011.6	3011.6	3011.6
2.5°	3029.2	3014.7	2982.8	3011.6	3006.1
5°	3011.6	3000.3	2968.4	2991.4	2985.8
7.5°	2991.4	2974.2	2942.2	2965.6	2959.8
10°	2959.8	2939.5	2904.7	2927.8	2919.2
12.5°	2916.1	2898.9	2864.2	2878.6	2872.8
15°	2867.0	2849.8	2811.9	2823.6	2809.2
17.5°	2806.1	2788.9	2751.1	2765.6	2751.1
20°	2739.4	2722.2	2681.7	2690.3	2678.9
22.5°	2673.1	2647.0	2609.2	2609.2	2603.3
25°	2594.7	2571.7	2522.6	2528.1	2522.6
27.5°	2507.8	2487.5	2450.1	2441.5	2427.0
30°	2421.2	2397.8	2354.4	2345.8	2334.2
32.5°	2328.4	2311.2	2264.7	2247.3	2235.6
35°	2238.7	2209.8	2163.3	2145.9	2131.4
37.5°	2137.3	2111.1	2064.7	2044.5	2030.0
40°	2033.0	2009.7	1963.3	1937.5	1925.9
42.5°	1931.6	1908.3	1862.2	1833.1	1815.9
45°	1821.7	1801.4	1757.8	1726.1	1714.5
47.5°	1714.5	1694.2	1647.8	1615.9	1598.7
50°	1601.4	1587.0	1546.4	1505.9	1491.4
52.5°	1491.4	1471.1	1433.6	1401.7	1381.4
55°	1378.7	1361.1	1326.4	1291.7	1277.3
57.5°	1265.6	1251.1	1213.4	1178.6	1166.9
60°	1152.5	1141.1	1100.5	1068.6	1060.0
62.5°	1042.5	1022.2	993.3	964.5	952.8
65°	929.7	912.2	883.3	857.2	842.8
67.5°	813.9	799.2	773.3	753.1	741.4
70°	706.7	695.0	668.9	648.6	637.3
72.5°	596.7	585.0	570.5	550.3	541.7
75°	486.4	480.8	466.1	448.9	454.8
77.5°	388.0	376.4	370.6	362.0	353.4
80°	289.7	286.6	280.8	272.2	266.4
82.5°	196.9	196.9	194.2	182.5	182.5
85°	118.6	115.8	113.1	104.1	101.4
87.5°	52.2	46.4	40.6	32.0	28.9
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	14.31	15.92	14.68	16.24	16.55	13.87	15.48	14.23	15.79	16.11
	3H	16.06	17.52	16.44	17.84	18.21	15.57	17.03	15.95	17.35	17.71
	4H	16.71	18.08	17.11	18.43	18.80	16.22	17.58	16.61	17.93	18.31
	6H	17.18	18.45	17.59	18.81	19.20	16.68	17.95	17.09	18.31	18.70
	8H	17.32	18.53	17.75	18.92	19.32	16.82	18.03	17.24	18.42	18.82
	12H	17.41	18.57	17.84	18.95	19.38	16.90	18.06	17.33	18.44	18.87
4H	2H	14.87	16.24	15.27	16.59	16.97	14.52	15.89	14.92	16.24	16.61
	3H	16.85	18.00	17.26	18.39	18.79	16.44	17.59	16.85	17.99	18.39
	4H	17.63	18.66	18.06	19.07	19.51	17.20	18.24	17.63	18.65	19.09
	6H	18.22	19.13	18.68	19.57	20.02	17.79	18.69	18.24	19.14	19.59
	8H	18.41	19.26	18.87	19.70	20.17	17.97	18.82	18.43	19.26	19.73
	12H	18.54	19.30	19.02	19.78	20.25	18.09	18.85	18.57	19.33	19.80
8H	4H	17.90	18.75	18.36	19.19	19.65	17.52	18.37	17.99	18.81	19.28
	6H	18.61	19.32	19.11	19.80	20.28	18.23	18.93	18.73	19.42	19.90
	8H	18.87	19.50	19.38	20.01	20.50	18.48	19.11	18.99	19.62	20.10
	12H	19.07	19.63	19.58	20.12	20.68	18.66	19.22	19.17	19.71	20.27
12H	4H	17.92	18.68	18.40	19.16	19.63	17.56	18.32	18.04	18.80	19.27
	6H	18.66	19.29	19.17	19.80	20.28	18.29	18.92	18.80	19.43	19.91
	8H	18.97	19.53	19.48	20.02	20.58	18.59	19.15	19.10	19.64	20.20