

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: P931543

Luminaire Tested: DFN2DS-TR4F0-090DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931543
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-TR4F0-090DS930-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

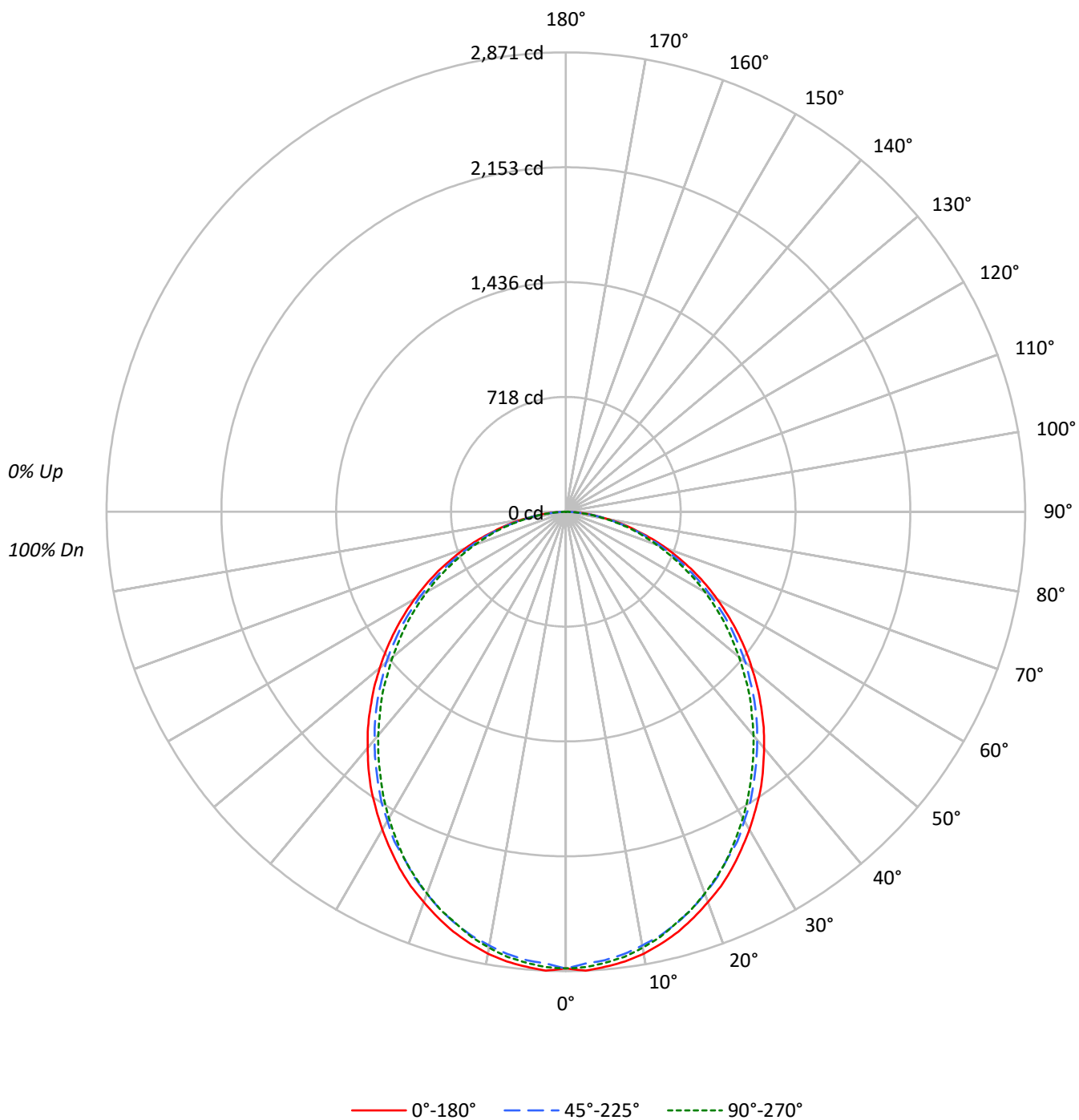
Lumens per Lamp: N/A
Luminaire Lumens: 7261.7 lumens
Efficiency: N/A
Efficacy: 77.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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°	2267	2267	2267
5°	2276	2243	2257
10°	2263	2221	2232
15°	2235	2192	2190
20°	2195	2148	2146
25°	2155	2096	2096
30°	2105	2047	2029
35°	2057	1988	1959
40°	1998	1930	1893
45°	1939	1872	1825
50°	1876	1811	1747
55°	1810	1741	1676
60°	1735	1657	1596
65°	1656	1574	1501
70°	1556	1472	1403
75°	1415	1356	1323
80°	1256	1217	1155
85°	1025	977	876

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1939 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.6	3.7
10°-20°	755.8	10.4
20°-30°	1110.7	15.3
30°-40°	1290.1	17.8
40°-50°	1288.5	17.7
50°-60°	1123.5	15.5
60°-70°	830.5	11.4
70°-80°	469.9	6.5
80°-90°	124.0	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°	2135.2	29.4
0°-40°	3425.3	47.2
0°-60°	5837.3	80.4
0°-90°	7261.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7261.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2854	2854	2854	2854	2854	
5°	2854	2843	2813	2835	2830	271
15°	2717	2701	2665	2676	2662	765
25°	2459	2437	2391	2396	2391	1131
35°	2122	2094	2050	2034	2020	1325
45°	1726	1707	1666	1636	1625	1332
55°	1306	1290	1257	1224	1210	1168
65°	881	864	837	812	799	871
75°	461	456	442	425	431	492
85°	112	110	107	99	96	132
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2854.0	2854.0	2854.0	2854.0	2854.0
2.5°	2870.7	2857.0	2826.7	2854.0	2848.8
5°	2854.0	2843.3	2813.1	2834.9	2829.6
7.5°	2834.9	2818.6	2788.3	2810.4	2804.9
10°	2804.9	2785.7	2752.7	2774.6	2766.4
12.5°	2763.5	2747.2	2714.4	2728.0	2722.5
15°	2717.0	2700.7	2664.8	2675.9	2662.2
17.5°	2659.3	2643.0	2607.2	2620.9	2607.2
20°	2596.1	2579.8	2541.3	2549.5	2538.7
22.5°	2533.2	2508.5	2472.6	2472.6	2467.1
25°	2458.9	2437.1	2390.6	2395.8	2390.6
27.5°	2376.5	2357.3	2321.9	2313.7	2300.0
30°	2294.5	2272.3	2231.2	2223.1	2212.1
32.5°	2206.5	2190.2	2146.2	2129.7	2118.6
35°	2121.5	2094.1	2050.1	2033.6	2019.9
37.5°	2025.4	2000.7	1956.7	1937.5	1923.8
40°	1926.7	1904.6	1860.6	1836.1	1825.1
42.5°	1830.6	1808.5	1764.8	1737.2	1720.9
45°	1726.3	1707.2	1665.8	1635.8	1624.8
47.5°	1624.8	1605.6	1561.5	1531.3	1515.0
50°	1517.6	1503.9	1465.5	1427.1	1413.4
52.5°	1413.4	1394.1	1358.6	1328.4	1309.1
55°	1306.5	1289.9	1257.0	1224.1	1210.4
57.5°	1199.4	1185.7	1149.9	1117.0	1105.9
60°	1092.2	1081.4	1043.0	1012.7	1004.6
62.5°	987.9	968.7	941.3	914.0	902.9
65°	881.1	864.5	837.1	812.4	798.7
67.5°	771.3	757.4	732.8	713.7	702.6
70°	669.7	658.6	633.9	614.7	603.9
72.5°	565.4	554.4	540.7	521.5	513.4
75°	461.0	455.7	441.7	425.4	431.0
77.5°	367.7	356.7	351.2	343.0	334.9
80°	274.6	271.6	266.1	257.9	252.5
82.5°	186.6	186.6	184.0	172.9	172.9
85°	112.4	109.8	107.2	98.7	96.1
87.5°	49.5	43.9	38.5	30.3	27.4
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	14.13	15.74	14.49	16.05	16.37	13.68	15.29	14.05	15.61	15.92
	3H	15.88	17.33	16.25	17.66	18.02	15.39	16.84	15.76	17.17	17.53
	4H	16.52	17.89	16.92	18.24	18.62	16.03	17.40	16.43	17.75	18.12
	6H	16.99	18.26	17.40	18.63	19.02	16.49	17.76	16.90	18.12	18.52
	8H	17.14	18.35	17.56	18.74	19.13	16.63	17.84	17.06	18.23	18.63
	12H	17.23	18.39	17.66	18.77	19.20	16.71	17.87	17.14	18.26	18.68
4H	2H	14.69	16.06	15.09	16.40	16.78	14.33	15.70	14.73	16.05	16.43
	3H	16.66	17.81	17.07	18.21	18.61	16.26	17.40	16.67	17.80	18.20
	4H	17.44	18.47	17.87	18.89	19.32	17.02	18.05	17.45	18.46	18.90
	6H	18.04	18.94	18.49	19.38	19.84	17.60	18.51	18.06	18.95	19.40
	8H	18.22	19.07	18.69	19.51	19.98	17.79	18.63	18.25	19.08	19.54
	12H	18.36	19.12	18.84	19.59	20.06	17.90	18.66	18.38	19.14	19.61
8H	4H	17.71	18.56	18.17	19.00	19.47	17.34	18.18	17.80	18.63	19.09
	6H	18.43	19.13	18.92	19.62	20.09	18.04	18.75	18.54	19.24	19.71
	8H	18.69	19.32	19.20	19.82	20.31	18.29	18.92	18.80	19.43	19.92
	12H	18.89	19.44	19.39	19.93	20.49	18.47	19.03	18.98	19.52	20.08
12H	4H	17.74	18.50	18.22	18.97	19.44	17.37	18.13	17.85	18.61	19.08
	6H	18.47	19.10	18.98	19.61	20.10	18.10	18.74	18.61	19.24	19.73
	8H	18.79	19.34	19.29	19.83	20.40	18.41	18.97	18.91	19.46	20.02