

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: P931129

Luminaire Tested: DFN2DS-SQ4F0-090DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931129
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-SQ4F0-090DS930-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

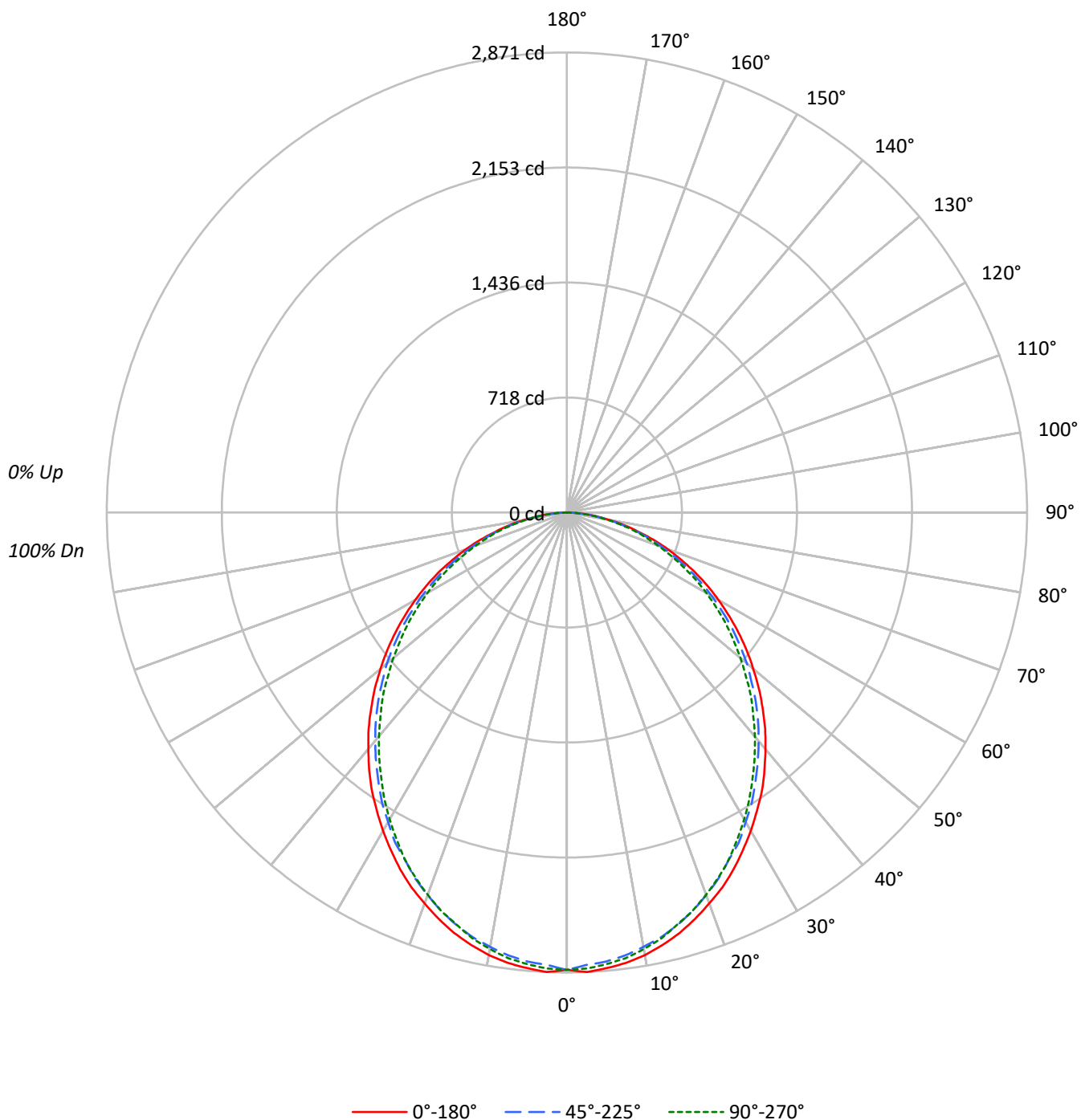
Lumens per Lamp: N/A
Luminaire Lumens: 7261.7 lumens
Efficiency: N/A
Efficacy: 80.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 90.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
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°	2003	2003	2003
5°	2010	1981	1993
10°	1998	1961	1971
15°	1974	1936	1934
20°	1939	1898	1896
25°	1904	1851	1851
30°	1859	1808	1792
35°	1817	1756	1730
40°	1765	1704	1672
45°	1713	1653	1612
50°	1657	1600	1543
55°	1598	1538	1481
60°	1533	1464	1410
65°	1463	1390	1326
70°	1374	1300	1239
75°	1250	1197	1168
80°	1110	1075	1020
85°	905	863	774

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1713 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	13.70	15.31	14.06	15.62	15.93	13.25	14.86	13.62	15.18	15.49
	3H	15.45	16.90	15.82	17.23	17.59	14.95	16.41	15.33	16.74	17.10
	4H	16.09	17.46	16.49	17.81	18.18	15.60	16.97	16.00	17.31	17.69
	6H	16.56	17.83	16.97	18.19	18.59	16.06	17.33	16.47	17.69	18.08
	8H	16.70	17.91	17.13	18.30	18.70	16.20	17.41	16.63	17.80	18.20
	12H	16.79	17.95	17.22	18.34	18.76	16.28	17.44	16.71	17.82	18.25
4H	2H	14.26	15.63	14.65	15.97	16.35	13.90	15.27	14.30	15.62	16.00
	3H	16.23	17.38	16.64	17.78	18.18	15.82	16.97	16.23	17.37	17.77
	4H	17.01	18.04	17.44	18.46	18.89	16.58	17.62	17.02	18.03	18.47
	6H	17.60	18.51	18.06	18.95	19.41	17.17	18.08	17.63	18.52	18.97
	8H	17.79	18.64	18.25	19.08	19.55	17.36	18.20	17.82	18.64	19.11
	12H	17.93	18.69	18.41	19.16	19.63	17.47	18.23	17.95	18.71	19.18
8H	4H	17.28	18.13	17.74	18.57	19.04	16.91	17.75	17.37	18.20	18.66
	6H	18.00	18.70	18.49	19.19	19.66	17.61	18.32	18.11	18.81	19.28
	8H	18.25	18.88	18.76	19.39	19.88	17.86	18.49	18.37	19.00	19.49
	12H	18.45	19.01	18.96	19.50	20.06	18.04	18.60	18.55	19.09	19.65
12H	4H	17.31	18.07	17.79	18.54	19.01	16.94	17.70	17.42	18.18	18.65
	6H	18.04	18.67	18.55	19.18	19.67	17.67	18.30	18.18	18.81	19.30
	8H	18.35	18.91	18.86	19.40	19.96	17.98	18.53	18.48	19.02	19.59