

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: P931003

Luminaire Tested: DFN2DS-SQ3F0-090DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931003
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-SQ3F0-090DS930-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

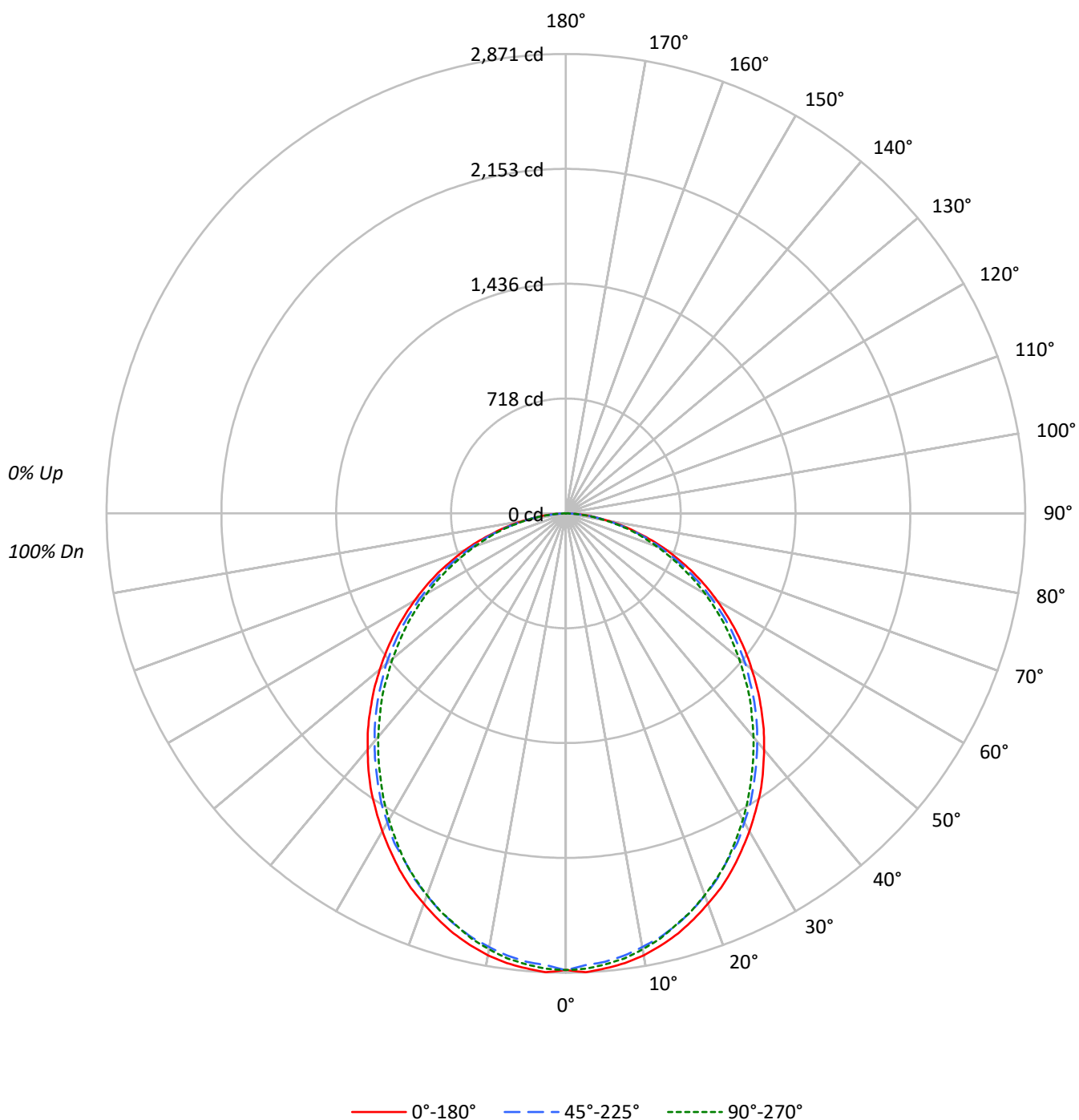
Lumens per Lamp: N/A
Luminaire Lumens: 7261.7 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3270	3270	3270
5°	3283	3236	3255
10°	3263	3203	3219
15°	3223	3161	3158
20°	3166	3099	3096
25°	3109	3022	3022
30°	3036	2952	2927
35°	2967	2868	2825
40°	2882	2783	2730
45°	2797	2699	2633
50°	2705	2612	2519
55°	2610	2511	2418
60°	2503	2390	2302
65°	2389	2270	2165
70°	2244	2124	2023
75°	2041	1955	1908
80°	1812	1756	1666
85°	1478	1409	1263

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2797 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	15.40	17.01	15.76	17.32	17.64	14.96	16.57	15.32	16.88	17.19
	3H	17.15	18.60	17.53	18.93	19.29	16.66	18.11	17.04	18.44	18.80
	4H	17.80	19.16	18.19	19.51	19.89	17.30	18.67	17.70	19.02	19.39
	6H	18.26	19.53	18.68	19.90	20.29	17.76	19.03	18.17	19.40	19.79
	8H	18.41	19.62	18.83	20.01	20.41	17.91	19.12	18.33	19.50	19.90
	12H	18.50	19.66	18.93	20.04	20.47	17.99	19.15	18.42	19.53	19.96
4H	2H	15.96	17.33	16.36	17.68	18.05	15.61	16.98	16.01	17.32	17.70
	3H	17.93	19.08	18.34	19.48	19.88	17.53	18.67	17.94	19.07	19.47
	4H	18.71	19.75	19.14	20.16	20.60	18.29	19.32	18.72	19.74	20.17
	6H	19.31	20.21	19.76	20.65	21.11	18.88	19.78	19.33	20.22	20.68
	8H	19.50	20.34	19.96	20.79	21.25	19.06	19.91	19.52	20.35	20.81
	12H	19.63	20.39	20.11	20.86	21.33	19.18	19.94	19.66	20.41	20.88
8H	4H	18.98	19.83	19.45	20.27	20.74	18.61	19.46	19.07	19.90	20.36
	6H	19.70	20.40	20.19	20.89	21.37	19.32	20.02	19.81	20.51	20.98
	8H	19.96	20.59	20.47	21.10	21.58	19.57	20.20	20.08	20.70	21.19
	12H	20.16	20.72	20.66	21.21	21.77	19.74	20.30	20.25	20.79	21.35
12H	4H	19.01	19.77	19.49	20.25	20.72	18.65	19.41	19.13	19.88	20.35
	6H	19.74	20.38	20.25	20.88	21.37	19.38	20.01	19.89	20.51	21.00
	8H	20.06	20.62	20.56	21.11	21.67	19.68	20.24	20.19	20.73	21.29