

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: P931119

Luminaire Tested: DFN2DS-SQ4F0-090DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931119
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-SQ4F0-090DS830-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

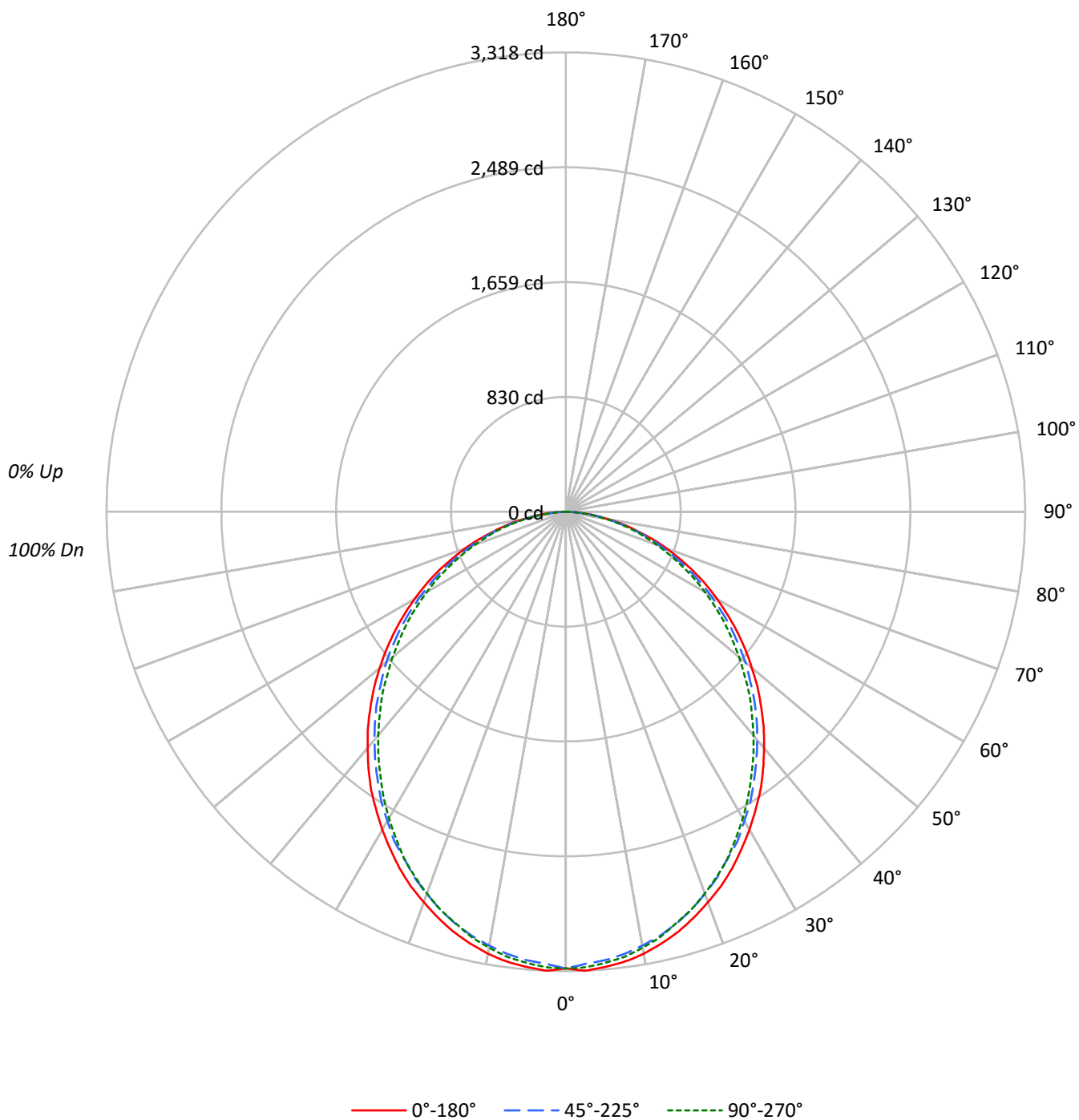
Lumens per Lamp: N/A
Luminaire Lumens: 8393.2 lumens
Efficiency: N/A
Efficacy: 92.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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°	2315	2315	2315
5°	2324	2290	2304
10°	2310	2267	2278
15°	2281	2237	2235
20°	2241	2193	2191
25°	2200	2139	2139
30°	2149	2089	2072
35°	2100	2030	2000
40°	2040	1970	1932
45°	1980	1911	1864
50°	1915	1849	1783
55°	1847	1777	1712
60°	1772	1692	1629
65°	1691	1606	1533
70°	1588	1503	1432
75°	1444	1384	1350
80°	1283	1243	1179
85°	1046	997	894

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1980 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.5	3.7
10°-20°	873.6	10.4
20°-30°	1283.8	15.3
30°-40°	1491.1	17.8
40°-50°	1489.3	17.7
50°-60°	1298.6	15.5
60°-70°	959.9	11.4
70°-80°	543.1	6.5
80°-90°	143.4	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°	2467.9	29.4
0°-40°	3959.0	47.2
0°-60°	6746.8	80.4
0°-90°	8393.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8393.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3299	3299	3299	3299	3299	
5°	3299	3286	3251	3277	3270	313
15°	3140	3122	3080	3093	3077	884
25°	2842	2817	2763	2769	2763	1308
35°	2452	2420	2370	2350	2335	1531
45°	1995	1973	1925	1891	1878	1540
55°	1510	1491	1453	1415	1399	1350
65°	1018	999	968	939	923	1007
75°	533	527	511	492	498	569
85°	130	127	124	114	111	153
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3298.8	3298.8	3298.8	3298.8	3298.8
2.5°	3318.0	3302.2	3267.2	3298.8	3292.8
5°	3298.8	3286.4	3251.4	3276.7	3270.5
7.5°	3276.7	3257.8	3222.8	3248.4	3242.0
10°	3242.0	3219.8	3181.7	3206.9	3197.5
12.5°	3194.1	3175.3	3137.3	3153.1	3146.8
15°	3140.3	3121.5	3080.1	3092.9	3077.0
17.5°	3073.7	3054.8	3013.5	3029.3	3013.5
20°	3000.6	2981.8	2937.3	2946.8	2934.3
22.5°	2927.9	2899.4	2857.9	2857.9	2851.5
25°	2842.1	2816.9	2763.1	2769.1	2763.1
27.5°	2746.9	2724.6	2683.7	2674.2	2658.4
30°	2652.0	2626.4	2578.9	2569.5	2556.8
32.5°	2550.4	2531.5	2480.7	2461.5	2448.7
35°	2452.1	2420.5	2369.6	2350.5	2334.7
37.5°	2341.1	2312.4	2261.6	2239.4	2223.6
40°	2226.9	2201.4	2150.5	2122.2	2109.5
42.5°	2115.8	2090.3	2039.8	2007.9	1989.0
45°	1995.3	1973.2	1925.4	1890.7	1878.0
47.5°	1878.0	1855.7	1804.9	1769.9	1751.1
50°	1754.1	1738.3	1693.8	1649.4	1633.6
52.5°	1633.6	1611.4	1570.3	1535.4	1513.1
55°	1510.1	1490.9	1452.8	1414.9	1399.1
57.5°	1386.2	1370.4	1329.1	1291.0	1278.2
60°	1262.4	1249.9	1205.5	1170.5	1161.1
62.5°	1141.9	1119.7	1088.0	1056.5	1043.6
65°	1018.4	999.2	967.5	939.0	923.2
67.5°	891.5	875.4	847.0	824.9	812.1
70°	774.0	761.2	732.7	710.5	698.0
72.5°	653.6	640.7	624.9	602.8	593.4
75°	532.8	526.7	510.6	491.7	498.1
77.5°	425.0	412.3	405.9	396.5	387.1
80°	317.4	314.0	307.6	298.1	291.8
82.5°	215.7	215.7	212.7	199.9	199.9
85°	129.9	126.9	123.9	114.1	111.1
87.5°	57.2	50.8	44.5	35.0	31.7
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	14.20	15.81	14.56	16.12	16.44	13.75	15.36	14.12	15.68	15.99
	3H	15.95	17.40	16.33	17.73	18.09	15.46	16.91	15.83	17.24	17.60
	4H	16.59	17.96	16.99	18.31	18.69	16.10	17.47	16.50	17.82	18.19
	6H	17.06	18.33	17.48	18.70	19.09	16.56	17.83	16.97	18.20	18.59
	8H	17.21	18.42	17.63	18.81	19.21	16.70	17.92	17.13	18.30	18.70
	12H	17.30	18.46	17.73	18.84	19.27	16.79	17.95	17.21	18.33	18.76
4H	2H	14.76	16.13	15.16	16.48	16.85	14.41	15.78	14.80	16.12	16.50
	3H	16.73	17.88	17.14	18.28	18.68	16.33	17.47	16.74	17.87	18.27
	4H	17.51	18.55	17.94	18.96	19.40	17.09	18.12	17.52	18.54	18.97
	6H	18.11	19.01	18.56	19.45	19.91	17.67	18.58	18.13	19.02	19.48
	8H	18.30	19.14	18.76	19.59	20.05	17.86	18.71	18.32	19.15	19.61
	12H	18.43	19.19	18.91	19.66	20.13	17.98	18.74	18.46	19.21	19.68
8H	4H	17.78	18.63	18.24	19.07	19.54	17.41	18.26	17.87	18.70	19.16
	6H	18.50	19.20	18.99	19.69	20.16	18.12	18.82	18.61	19.31	19.78
	8H	18.76	19.39	19.27	19.89	20.38	18.37	19.00	18.88	19.50	19.99
	12H	18.96	19.51	19.46	20.01	20.57	18.54	19.10	19.05	19.59	20.15
12H	4H	17.81	18.57	18.29	19.05	19.51	17.45	18.21	17.93	18.68	19.15
	6H	18.54	19.18	19.05	19.68	20.17	18.17	18.81	18.68	19.31	19.80
	8H	18.86	19.42	19.36	19.91	20.47	18.48	19.04	18.99	19.53	20.09