

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: P931217

Luminaire Tested: DFN2DS-SQ4F0-160DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931217
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-SQ4F0-160DS927-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

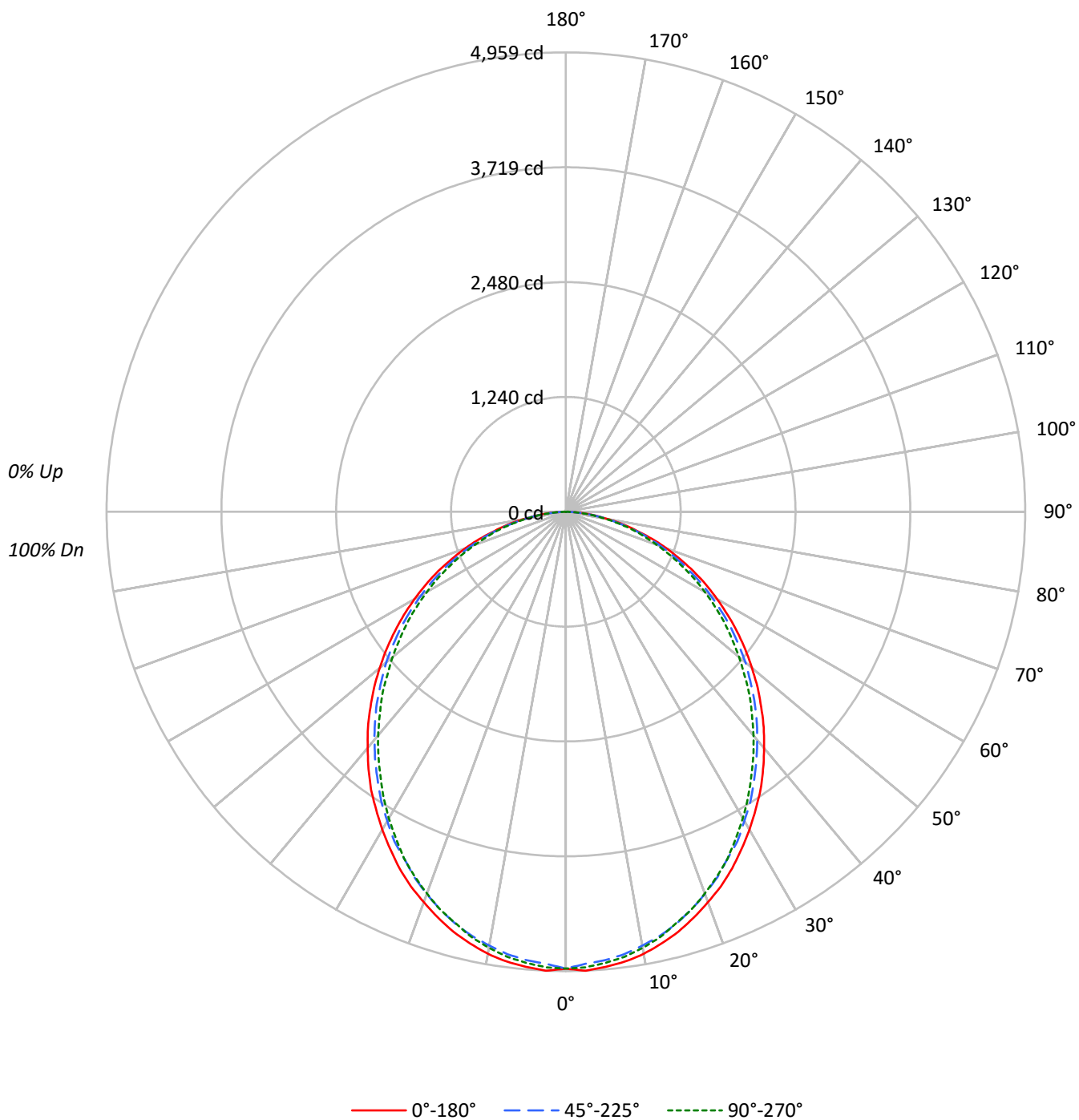
Lumens per Lamp: N/A
Luminaire Lumens: 12545.3 lumens
Efficiency: N/A
Efficacy: 71.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 174.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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°	3460	3460	3460
5°	3473	3423	3443
10°	3453	3388	3405
15°	3410	3344	3341
20°	3349	3278	3275
25°	3289	3197	3197
30°	3212	3123	3096
35°	3139	3034	2989
40°	3049	2944	2888
45°	2960	2856	2785
50°	2862	2764	2665
55°	2761	2657	2558
60°	2648	2529	2435
65°	2527	2401	2291
70°	2374	2247	2140
75°	2159	2069	2018
80°	1917	1858	1763
85°	1563	1490	1336

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2960 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	464.1	3.7
10°-20°	1305.8	10.4
20°-30°	1918.9	15.3
30°-40°	2228.7	17.8
40°-50°	2226.0	17.7
50°-60°	1941.0	15.5
60°-70°	1434.8	11.4
70°-80°	811.8	6.5
80°-90°	214.3	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°	3688.8	29.4
0°-40°	5917.5	47.2
0°-60°	10084.4	80.4
0°-90°	12545.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12545.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4931	4931	4931	4931	4931	
5°	4931	4912	4860	4898	4888	468
15°	4694	4666	4604	4623	4599	1322
25°	4248	4210	4130	4139	4130	1955
35°	3665	3618	3542	3513	3490	2289
45°	2982	2949	2878	2826	2807	2302
55°	2257	2228	2172	2115	2091	2018
65°	1522	1494	1446	1404	1380	1505
75°	796	787	763	735	744	850
85°	194	190	185	170	166	228
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4930.8	4930.8	4930.8	4930.8	4930.8
2.5°	4959.4	4935.7	4883.5	4930.8	4921.6
5°	4930.8	4912.1	4859.8	4897.6	4888.5
7.5°	4897.6	4869.4	4817.0	4855.3	4845.7
10°	4845.7	4812.5	4755.7	4793.4	4779.3
12.5°	4774.3	4746.1	4689.3	4713.0	4703.4
15°	4693.8	4665.7	4603.7	4622.9	4599.2
17.5°	4594.2	4566.0	4504.2	4527.8	4504.2
20°	4485.0	4456.9	4390.5	4404.5	4385.9
22.5°	4376.4	4333.7	4271.7	4271.7	4262.2
25°	4248.1	4210.4	4129.9	4139.0	4129.9
27.5°	4105.7	4072.5	4011.2	3997.1	3973.5
30°	3963.9	3925.7	3854.7	3840.6	3821.6
32.5°	3812.0	3783.9	3707.8	3679.2	3660.1
35°	3665.1	3617.9	3541.8	3513.2	3489.6
37.5°	3499.1	3456.4	3380.4	3347.2	3323.5
40°	3328.5	3290.4	3214.4	3172.1	3153.0
42.5°	3162.6	3124.4	3048.9	3001.1	2972.9
45°	2982.5	2949.2	2877.9	2826.0	2806.9
47.5°	2806.9	2773.7	2697.8	2645.4	2617.3
50°	2621.8	2598.2	2531.8	2465.3	2441.7
52.5°	2441.7	2408.6	2347.2	2294.8	2261.6
55°	2257.1	2228.5	2171.6	2114.7	2091.1
57.5°	2072.0	2048.3	1986.5	1929.6	1910.5
60°	1886.9	1868.2	1801.9	1749.5	1735.4
62.5°	1706.8	1673.6	1626.3	1579.0	1559.9
65°	1522.1	1493.5	1446.2	1403.5	1379.8
67.5°	1332.5	1308.4	1266.2	1232.9	1213.8
70°	1157.0	1137.9	1095.1	1061.9	1043.3
72.5°	976.9	957.8	934.2	900.9	886.9
75°	796.3	787.2	763.1	734.9	744.5
77.5°	635.3	616.3	606.7	592.6	578.5
80°	474.3	469.3	459.8	445.7	436.2
82.5°	322.4	322.4	317.9	298.8	298.8
85°	194.2	189.6	185.1	170.5	166.0
87.5°	85.5	76.0	66.4	52.4	47.3
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	15.59	17.21	15.96	17.52	17.83	15.15	16.76	15.52	17.08	17.39
	3H	17.34	18.80	17.72	19.13	19.49	16.85	18.31	17.23	18.63	19.00
	4H	17.99	19.36	18.39	19.71	20.08	17.50	18.87	17.89	19.21	19.59
	6H	18.46	19.73	18.87	20.09	20.48	17.96	19.23	18.37	19.59	19.98
	8H	18.60	19.81	19.03	20.20	20.60	18.10	19.31	18.53	19.70	20.10
	12H	18.69	19.85	19.12	20.24	20.66	18.18	19.34	18.61	19.72	20.15
4H	2H	16.16	17.52	16.55	17.87	18.25	15.80	17.17	16.20	17.52	17.90
	3H	18.13	19.28	18.54	19.67	20.07	17.72	18.87	18.13	19.27	19.67
	4H	18.91	19.94	19.34	20.36	20.79	18.48	19.52	18.91	19.93	20.37
	6H	19.50	20.41	19.96	20.85	21.31	19.07	19.98	19.53	20.42	20.87
	8H	19.69	20.54	20.15	20.98	21.45	19.25	20.10	19.72	20.54	21.01
	12H	19.82	20.58	20.30	21.06	21.53	19.37	20.13	19.85	20.61	21.08
8H	4H	19.18	20.03	19.64	20.47	20.93	18.81	19.65	19.27	20.10	20.56
	6H	19.89	20.60	20.39	21.09	21.56	19.51	20.22	20.01	20.70	21.18
	8H	20.15	20.78	20.66	21.29	21.78	19.76	20.39	20.27	20.90	21.39
	12H	20.35	20.91	20.86	21.40	21.96	19.94	20.50	20.45	20.99	21.55
12H	4H	19.21	19.97	19.69	20.44	20.91	18.84	19.60	19.32	20.08	20.55
	6H	19.94	20.57	20.45	21.08	21.56	19.57	20.20	20.08	20.71	21.20
	8H	20.25	20.81	20.76	21.30	21.86	19.88	20.43	20.38	20.92	21.49