

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: P931007

Luminaire Tested: DFN2DS-SQ3F0-090DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931007
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-SQ3F0-090DS940-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

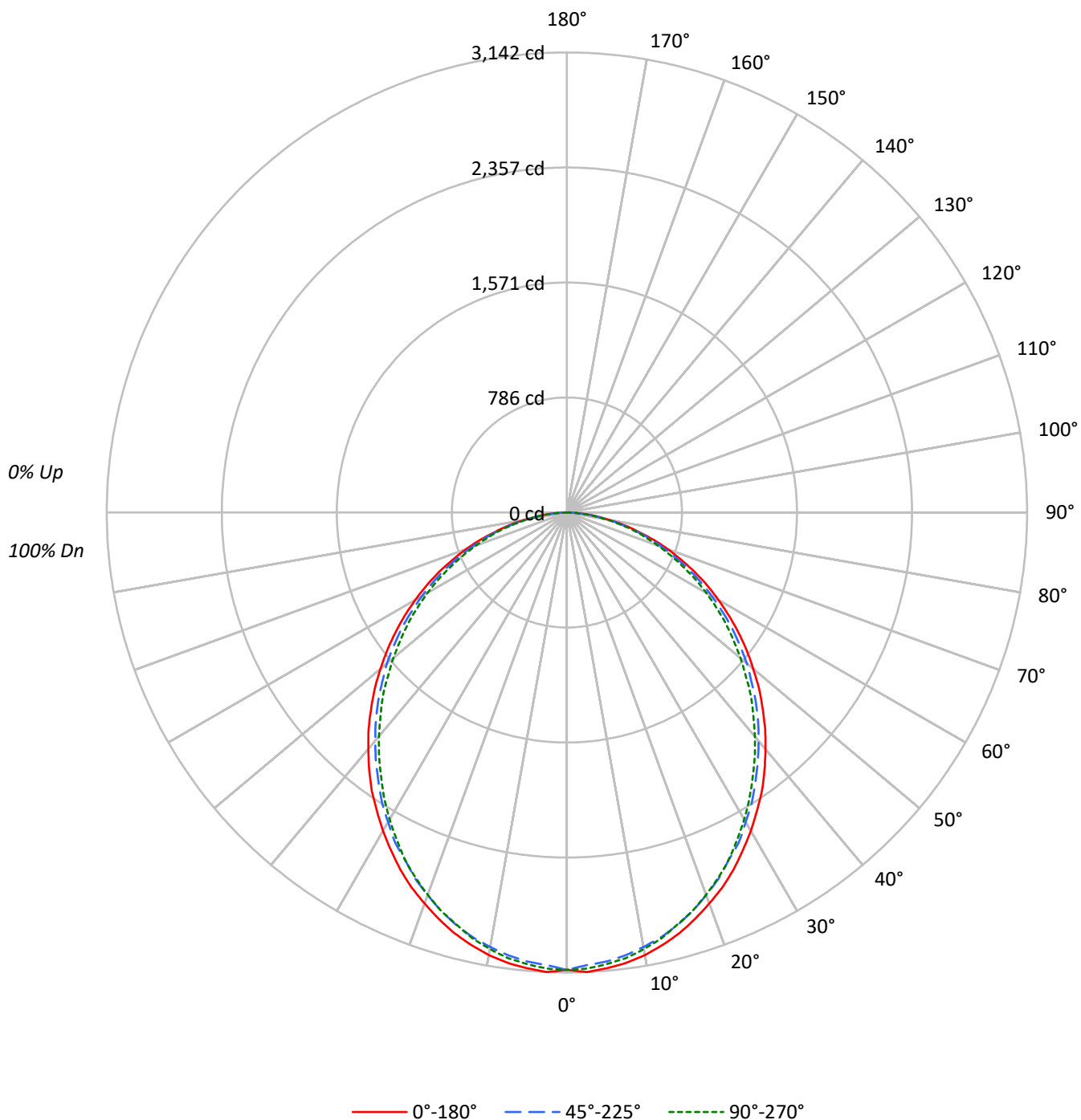
Lumens per Lamp: N/A
Luminaire Lumens: 7947.7 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

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
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°	3579	3579	3579
5°	3593	3541	3562
10°	3572	3505	3523
15°	3527	3460	3456
20°	3465	3391	3388
25°	3402	3308	3308
30°	3322	3231	3203
35°	3248	3139	3092
40°	3154	3046	2988
45°	3062	2954	2882
50°	2961	2859	2757
55°	2857	2748	2646
60°	2739	2616	2520
65°	2614	2484	2370
70°	2456	2324	2214
75°	2233	2140	2088
80°	1983	1921	1823
85°	1617	1542	1383

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3062 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.0	3.7
10°-20°	827.2	10.4
20°-30°	1215.7	15.3
30°-40°	1412.0	17.8
40°-50°	1410.2	17.7
50°-60°	1229.7	15.5
60°-70°	909.0	11.4
70°-80°	514.3	6.5
80°-90°	135.7	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°	2336.9	29.4
0°-40°	3748.9	47.2
0°-60°	6388.7	80.4
0°-90°	7947.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7947.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3124	3124	3124	3124	3124	
5°	3124	3112	3079	3103	3097	297
15°	2974	2956	2917	2929	2914	837
25°	2691	2667	2616	2622	2616	1238
35°	2322	2292	2244	2226	2211	1450
45°	1889	1868	1823	1790	1778	1458
55°	1430	1412	1376	1340	1325	1278
65°	964	946	916	889	874	953
75°	504	499	484	466	472	539
85°	123	120	117	108	105	145
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3123.7	3123.7	3123.7	3123.7	3123.7
2.5°	3141.9	3126.9	3093.8	3123.7	3118.0
5°	3123.7	3111.9	3078.8	3102.7	3096.9
7.5°	3102.7	3084.9	3051.7	3076.0	3069.9
10°	3069.9	3048.9	3012.8	3036.7	3027.8
12.5°	3024.6	3006.8	2970.8	2985.7	2979.7
15°	2973.7	2955.8	2916.6	2928.7	2913.7
17.5°	2910.5	2892.7	2853.5	2868.5	2853.5
20°	2841.4	2823.5	2781.4	2790.4	2778.6
22.5°	2772.5	2745.5	2706.2	2706.2	2700.2
25°	2691.3	2667.3	2616.4	2622.1	2616.4
27.5°	2601.1	2580.0	2541.2	2532.3	2517.3
30°	2511.2	2487.0	2442.0	2433.1	2421.1
32.5°	2415.0	2397.2	2349.0	2330.9	2318.8
35°	2322.0	2292.0	2243.8	2225.7	2210.7
37.5°	2216.8	2189.7	2141.5	2120.6	2105.6
40°	2108.7	2084.5	2036.3	2009.6	1997.5
42.5°	2003.5	1979.3	1931.5	1901.3	1883.5
45°	1889.4	1868.5	1823.2	1790.3	1778.3
47.5°	1778.3	1757.2	1709.1	1676.0	1658.1
50°	1661.0	1646.0	1603.9	1561.9	1546.9
52.5°	1546.9	1525.9	1487.0	1453.9	1432.8
55°	1430.0	1411.8	1375.7	1339.8	1324.8
57.5°	1312.7	1297.7	1258.5	1222.5	1210.4
60°	1195.4	1183.6	1141.5	1108.4	1099.5
62.5°	1081.3	1060.2	1030.3	1000.4	988.2
65°	964.3	946.1	916.2	889.1	874.2
67.5°	844.2	828.9	802.1	781.1	769.0
70°	733.0	720.8	693.8	672.7	661.0
72.5°	618.9	606.7	591.8	570.8	561.9
75°	504.5	498.7	483.5	465.6	471.7
77.5°	402.5	390.4	384.4	375.4	366.5
80°	300.5	297.3	291.2	282.3	276.3
82.5°	204.3	204.3	201.4	189.3	189.3
85°	123.0	120.2	117.3	108.0	105.2
87.5°	54.1	48.1	42.1	33.2	30.0
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	15.71	17.32	16.08	17.64	17.95	15.27	16.88	15.63	17.19	17.51
	3H	17.46	18.92	17.84	19.24	19.60	16.97	18.43	17.35	18.75	19.11
	4H	18.11	19.48	18.51	19.83	20.20	17.61	18.98	18.01	19.33	19.71
	6H	18.58	19.85	18.99	20.21	20.60	18.08	19.35	18.49	19.71	20.10
	8H	18.72	19.93	19.15	20.32	20.72	18.22	19.43	18.64	19.82	20.22
	12H	18.81	19.97	19.24	20.35	20.78	18.30	19.46	18.73	19.84	20.27
4H	2H	16.27	17.64	16.67	17.99	18.37	15.92	17.29	16.32	17.64	18.01
	3H	18.25	19.39	18.66	19.79	20.19	17.84	18.99	18.25	19.39	19.79
	4H	19.02	20.06	19.46	20.47	20.91	18.60	19.64	19.03	20.05	20.49
	6H	19.62	20.53	20.08	20.97	21.42	19.19	20.09	19.64	20.53	20.99
	8H	19.81	20.66	20.27	21.10	21.57	19.37	20.22	19.83	20.66	21.13
	12H	19.94	20.70	20.42	21.18	21.65	19.49	20.25	19.97	20.73	21.20
8H	4H	19.30	20.14	19.76	20.59	21.05	18.92	19.77	19.38	20.21	20.68
	6H	20.01	20.72	20.51	21.20	21.68	19.63	20.33	20.12	20.82	21.30
	8H	20.27	20.90	20.78	21.41	21.90	19.88	20.51	20.39	21.02	21.50
	12H	20.47	21.03	20.98	21.52	22.08	20.06	20.62	20.57	21.11	21.67
12H	4H	19.32	20.08	19.80	20.56	21.03	18.96	19.72	19.44	20.20	20.66
	6H	20.06	20.69	20.57	21.20	21.68	19.69	20.32	20.20	20.83	21.31
	8H	20.37	20.93	20.88	21.42	21.98	19.99	20.55	20.50	21.04	21.60