

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: P931199

Luminaire Tested: DFN2DS-SQ4F0-140DS927-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931199
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-SQ4F0-140DS927-FLL
Description: 4 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

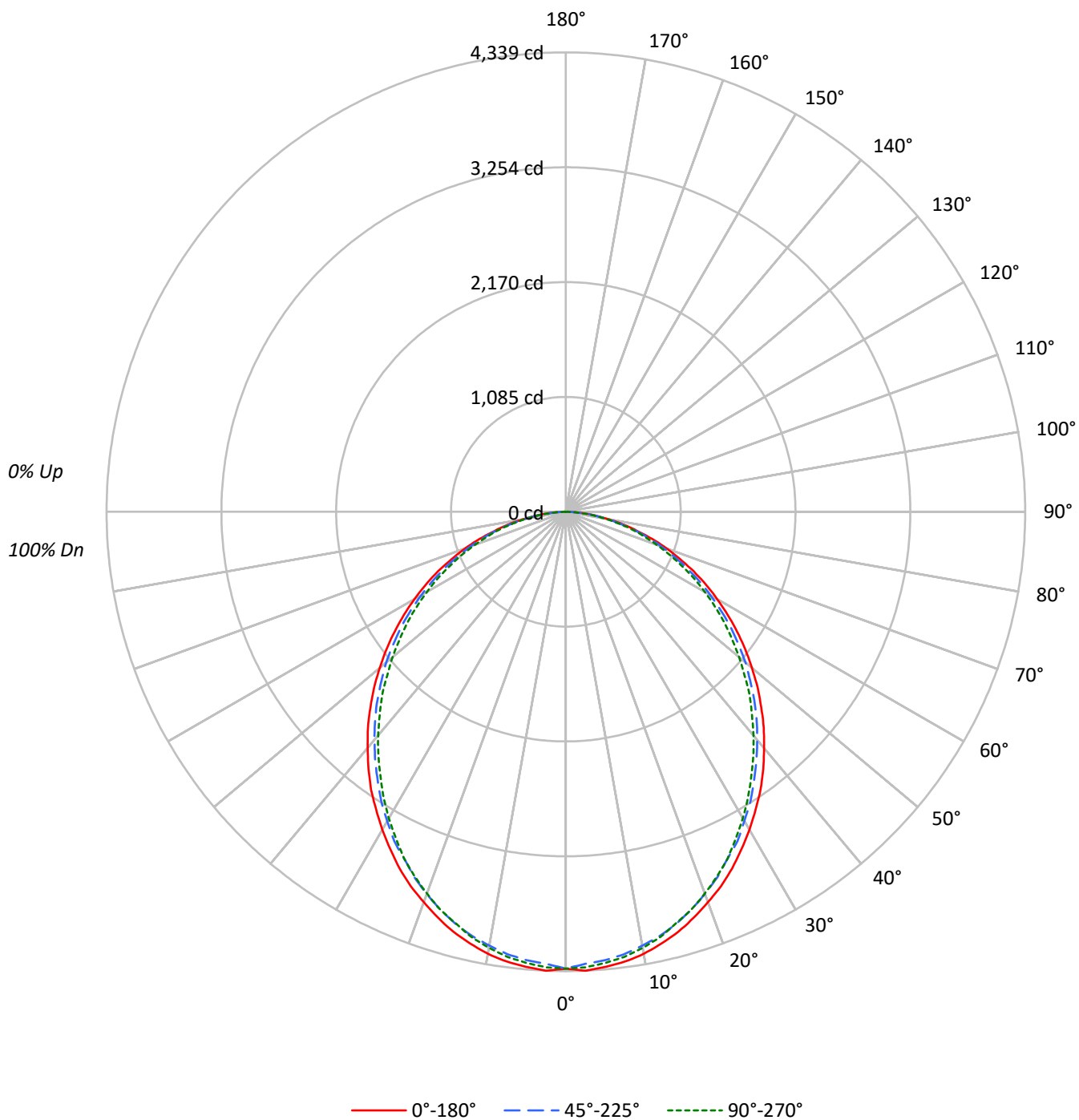
Lumens per Lamp: N/A
Luminaire Lumens: 10977.1 lumens
Efficiency: N/A
Efficacy: 72.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 151.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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°	3027	3027	3027
5°	3039	2995	3013
10°	3021	2965	2980
15°	2984	2926	2923
20°	2930	2869	2866
25°	2878	2798	2798
30°	2810	2733	2709
35°	2747	2655	2615
40°	2668	2576	2527
45°	2590	2499	2437
50°	2504	2418	2332
55°	2416	2325	2238
60°	2317	2213	2131
65°	2211	2101	2004
70°	2077	1966	1873
75°	1889	1810	1766
80°	1677	1626	1542
85°	1368	1304	1170

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2590 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	406.1	3.7
10°-20°	1142.5	10.4
20°-30°	1679.1	15.3
30°-40°	1950.1	17.8
40°-50°	1947.7	17.7
50°-60°	1698.4	15.5
60°-70°	1255.4	11.4
70°-80°	710.3	6.5
80°-90°	187.5	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°	3227.7	29.4
0°-40°	5177.8	47.2
0°-60°	8823.9	80.4
0°-90°	10977.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10977.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4314	4314	4314	4314	4314	
5°	4314	4298	4252	4285	4277	410
15°	4107	4082	4028	4045	4024	1157
25°	3717	3684	3614	3622	3614	1710
35°	3207	3166	3099	3074	3053	2003
45°	2610	2581	2518	2473	2456	2014
55°	1975	1950	1900	1850	1830	1766
65°	1332	1307	1266	1228	1207	1317
75°	697	689	668	643	651	744
85°	170	166	162	149	145	200
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4314.4	4314.4	4314.4	4314.4	4314.4
2.5°	4339.4	4318.8	4273.0	4314.4	4306.5
5°	4314.4	4298.1	4252.3	4285.4	4277.4
7.5°	4285.4	4260.7	4214.9	4248.4	4240.0
10°	4240.0	4211.0	4161.2	4194.3	4181.9
12.5°	4177.5	4152.9	4103.1	4123.8	4115.5
15°	4107.1	4082.4	4028.3	4045.1	4024.3
17.5°	4020.0	3995.3	3941.2	3961.8	3941.2
20°	3924.4	3899.8	3841.7	3854.0	3837.7
22.5°	3829.3	3791.9	3737.8	3737.8	3729.4
25°	3717.1	3684.1	3613.7	3621.6	3613.7
27.5°	3592.5	3563.5	3509.8	3497.5	3476.8
30°	3468.4	3435.0	3372.9	3360.6	3343.8
32.5°	3335.5	3310.9	3244.3	3219.3	3202.5
35°	3207.0	3165.6	3099.1	3074.1	3053.3
37.5°	3061.7	3024.3	2957.8	2928.8	2908.1
40°	2912.5	2879.1	2812.6	2775.6	2758.9
42.5°	2767.2	2733.8	2667.8	2626.0	2601.3
45°	2609.6	2580.7	2518.2	2472.8	2456.1
47.5°	2456.1	2427.0	2360.6	2314.8	2290.1
50°	2294.1	2273.4	2215.3	2157.2	2136.5
52.5°	2136.5	2107.4	2053.7	2008.0	1979.0
55°	1975.0	1949.9	1900.2	1850.4	1829.8
57.5°	1813.0	1792.3	1738.2	1688.5	1671.7
60°	1651.0	1634.8	1576.6	1530.9	1518.5
62.5°	1493.5	1464.4	1423.0	1381.6	1364.9
65°	1331.9	1306.8	1265.5	1228.0	1207.3
67.5°	1166.0	1144.8	1107.8	1078.8	1062.1
70°	1012.3	995.6	958.2	929.2	912.9
72.5°	854.8	838.0	817.3	788.4	776.0
75°	696.8	688.9	667.7	643.1	651.4
77.5°	555.9	539.2	530.8	518.5	506.2
80°	415.1	410.7	402.3	390.0	381.6
82.5°	282.1	282.1	278.2	261.4	261.4
85°	169.9	165.9	162.0	149.2	145.3
87.5°	74.8	66.4	58.1	45.8	41.3
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	15.13	16.74	15.50	17.06	17.37	14.69	16.30	15.05	16.61	16.93
	3H	16.88	18.34	17.26	18.66	19.02	16.39	17.84	16.77	18.17	18.53
	4H	17.53	18.90	17.93	19.24	19.62	17.03	18.40	17.43	18.75	19.13
	6H	18.00	19.27	18.41	19.63	20.02	17.50	18.76	17.91	19.13	19.52
	8H	18.14	19.35	18.56	19.74	20.14	17.64	18.85	18.06	19.24	19.64
	12H	18.23	19.39	18.66	19.77	20.20	17.72	18.88	18.15	19.26	19.69
4H	2H	15.69	17.06	16.09	17.41	17.78	15.34	16.71	15.74	17.06	17.43
	3H	17.67	18.81	18.08	19.21	19.61	17.26	18.41	17.67	18.80	19.20
	4H	18.44	19.48	18.87	19.89	20.33	18.02	19.06	18.45	19.47	19.91
	6H	19.04	19.94	19.49	20.39	20.84	18.61	19.51	19.06	19.95	20.41
	8H	19.23	20.08	19.69	20.52	20.98	18.79	19.64	19.25	20.08	20.55
	12H	19.36	20.12	19.84	20.60	21.07	18.91	19.67	19.39	20.14	20.61
8H	4H	18.72	19.56	19.18	20.01	20.47	18.34	19.19	18.80	19.63	20.10
	6H	19.43	20.13	19.92	20.62	21.10	19.05	19.75	19.54	20.24	20.72
	8H	19.69	20.32	20.20	20.83	21.31	19.30	19.93	19.81	20.44	20.92
	12H	19.89	20.45	20.40	20.94	21.50	19.48	20.03	19.98	20.53	21.09
12H	4H	18.74	19.50	19.22	19.98	20.45	18.38	19.14	18.86	19.61	20.08
	6H	19.48	20.11	19.99	20.61	21.10	19.11	19.74	19.62	20.25	20.73
	8H	19.79	20.35	20.30	20.84	21.40	19.41	19.97	19.92	20.46	21.02