

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: P930827

Luminaire Tested: DFN2DS-SQ2F0-040DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930827
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-SQ2F0-040DS940-FLL
Description: 2 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

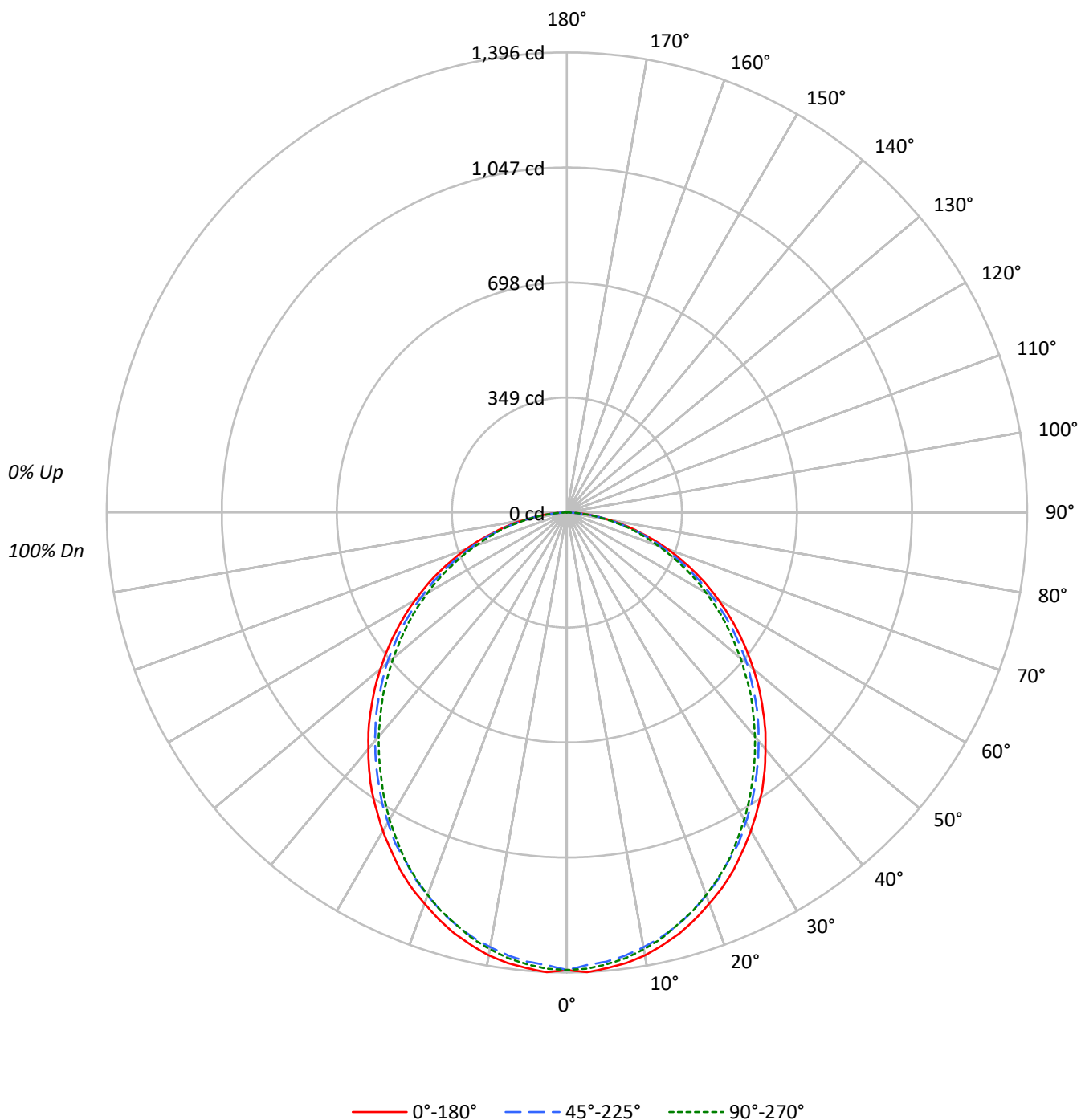
Lumens per Lamp: N/A
Luminaire Lumens: 3532.3 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.21' x L: 2.21' x H: 0')
CIE Type: Direct

Input Watts (W): 37.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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°	3053	3053	3053
5°	3064	3020	3038
10°	3046	2990	3005
15°	3009	2951	2948
20°	2955	2893	2890
25°	2902	2821	2821
30°	2834	2756	2732
35°	2770	2677	2637
40°	2690	2598	2548
45°	2611	2520	2458
50°	2525	2439	2352
55°	2437	2344	2257
60°	2337	2231	2149
65°	2230	2119	2022
70°	2095	1983	1888
75°	1905	1826	1781
80°	1690	1639	1555
85°	1380	1314	1178

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2611 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.7	3.7
10°-20°	367.6	10.4
20°-30°	540.3	15.3
30°-40°	627.5	17.8
40°-50°	626.8	17.7
50°-60°	546.5	15.5
60°-70°	404.0	11.4
70°-80°	228.6	6.5
80°-90°	60.3	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°	1038.6	29.4
0°-40°	1666.2	47.2
0°-60°	2839.4	80.4
0°-90°	3532.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3532.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1388	1383	1368	1379	1376	132
15°	1322	1314	1296	1302	1295	372
25°	1196	1186	1163	1165	1163	550
35°	1032	1019	997	989	982	644
45°	840	830	810	796	790	648
55°	636	627	612	595	589	568
65°	429	420	407	395	389	424
75°	224	222	215	207	210	239
85°	55	53	52	48	47	64
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.3	1388.3	1388.3	1388.3	1388.3
2.5°	1396.4	1389.7	1375.0	1388.3	1385.8
5°	1388.3	1383.0	1368.3	1378.9	1376.4
7.5°	1378.9	1371.0	1356.3	1367.1	1364.4
10°	1364.4	1355.0	1339.1	1349.7	1345.7
12.5°	1344.2	1336.3	1320.3	1327.0	1324.3
15°	1321.6	1313.6	1296.3	1301.6	1295.0
17.5°	1293.6	1285.6	1268.2	1274.8	1268.2
20°	1262.8	1254.9	1236.2	1240.1	1235.0
22.5°	1232.2	1220.2	1202.8	1202.8	1200.1
25°	1196.1	1185.5	1162.8	1165.4	1162.8
27.5°	1156.0	1146.7	1129.5	1125.4	1118.8
30°	1116.1	1105.4	1085.4	1081.4	1076.0
32.5°	1073.3	1065.4	1044.0	1036.0	1030.5
35°	1032.0	1018.7	997.3	989.2	982.5
37.5°	985.2	973.2	951.8	942.5	935.8
40°	937.2	926.4	905.0	893.2	887.8
42.5°	890.5	879.7	858.5	845.0	837.1
45°	839.7	830.5	810.3	795.8	790.3
47.5°	790.3	780.9	759.6	744.9	737.0
50°	738.2	731.5	712.9	694.2	687.5
52.5°	687.5	678.2	660.9	646.2	636.8
55°	635.6	627.4	611.5	595.4	588.8
57.5°	583.4	576.8	559.3	543.3	538.0
60°	531.3	526.0	507.4	492.7	488.6
62.5°	480.6	471.2	458.0	444.6	439.2
65°	428.6	420.5	407.2	395.2	388.6
67.5°	375.2	368.4	356.5	347.2	341.8
70°	325.8	320.4	308.4	299.0	293.7
72.5°	275.1	269.7	263.1	253.7	249.7
75°	224.2	221.7	214.9	206.9	209.6
77.5°	178.8	173.5	170.8	166.8	162.9
80°	133.5	132.1	129.4	125.5	122.8
82.5°	90.8	90.8	89.6	84.1	84.1
85°	54.7	53.4	52.1	48.0	46.7
87.5°	24.1	21.4	18.7	14.7	13.3
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	15.16	16.77	15.53	17.09	17.40	14.72	16.33	15.08	16.64	16.95
	3H	16.91	18.37	17.29	18.69	19.05	16.42	17.87	16.80	18.20	18.56
	4H	17.56	18.93	17.96	19.27	19.65	17.06	18.43	17.46	18.78	19.15
	6H	18.03	19.29	18.44	19.66	20.05	17.52	18.79	17.94	19.16	19.55
	8H	18.17	19.38	18.59	19.77	20.17	17.67	18.88	18.09	19.27	19.66
	12H	18.26	19.42	18.69	19.80	20.23	17.75	18.91	18.18	19.29	19.72
4H	2H	15.72	17.09	16.12	17.44	17.81	15.37	16.74	15.77	17.08	17.46
	3H	17.70	18.84	18.11	19.24	19.64	17.29	18.44	17.70	18.83	19.23
	4H	18.47	19.51	18.90	19.92	20.36	18.05	19.08	18.48	19.50	19.93
	6H	19.07	19.97	19.52	20.41	20.87	18.64	19.54	19.09	19.98	20.44
	8H	19.26	20.10	19.72	20.55	21.01	18.82	19.67	19.28	20.11	20.57
	12H	19.39	20.15	19.87	20.63	21.10	18.94	19.70	19.42	20.17	20.64
8H	4H	18.75	19.59	19.21	20.03	20.50	18.37	19.22	18.83	19.66	20.13
	6H	19.46	20.16	19.95	20.65	21.13	19.08	19.78	19.57	20.27	20.74
	8H	19.72	20.35	20.23	20.86	21.34	19.33	19.96	19.84	20.46	20.95
	12H	19.92	20.48	20.43	20.97	21.53	19.51	20.06	20.01	20.55	21.11
12H	4H	18.77	19.53	19.25	20.01	20.48	18.41	19.17	18.89	19.64	20.11
	6H	19.50	20.14	20.01	20.64	21.13	19.14	19.77	19.65	20.28	20.76
	8H	19.82	20.38	20.33	20.87	21.43	19.44	20.00	19.95	20.49	21.05