

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: P931454

Luminaire Tested: DFN2DS-TR4F0-040DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931454
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-040DS930-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

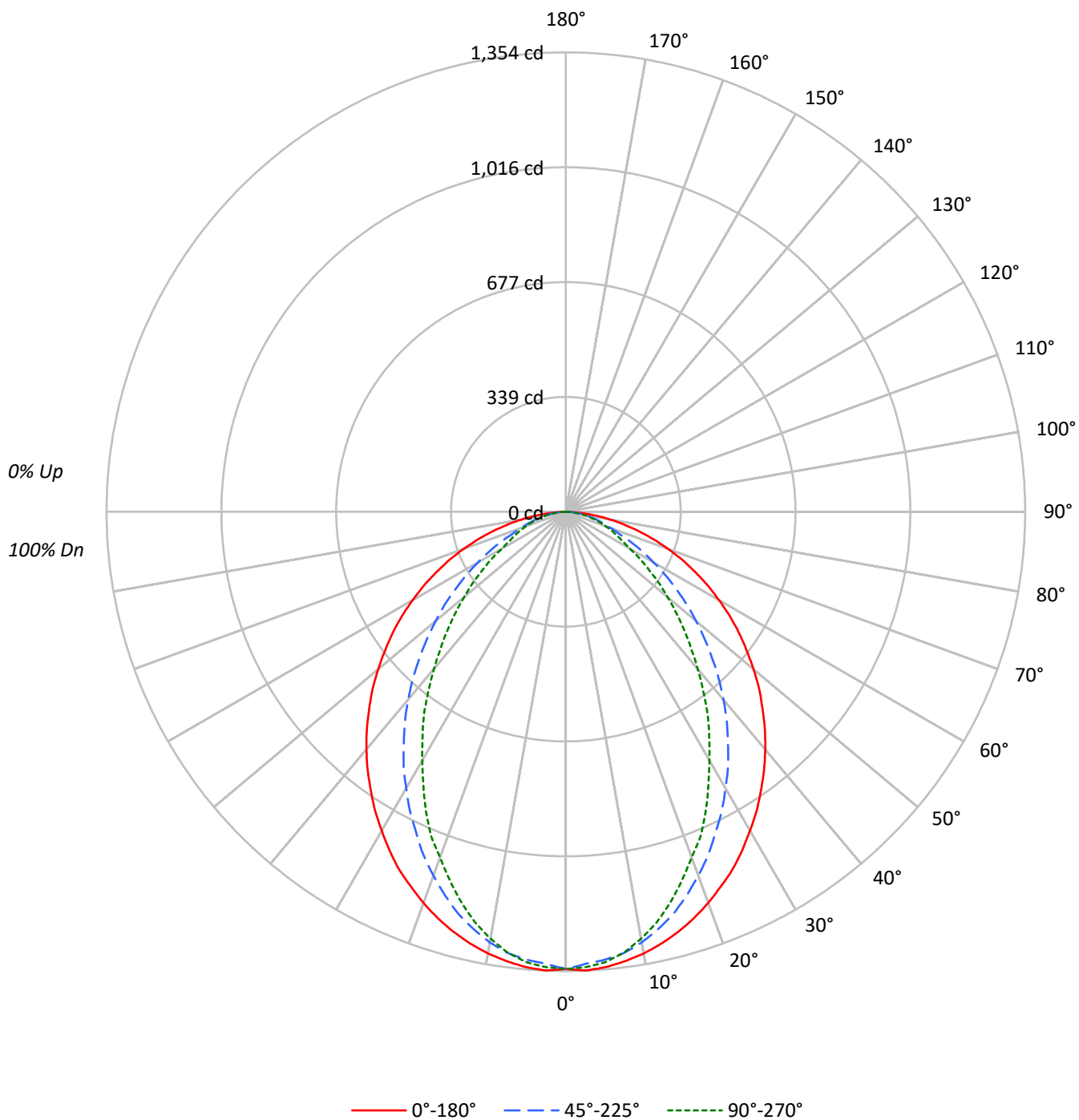
Lumens per Lamp: N/A
Luminaire Lumens: 2771.0 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 38.2
Input Voltage (V):
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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1070	1070	1070
5°	1075	1057	1063
10°	1066	1040	1031
15°	1054	1009	980
20°	1037	965	916
25°	1020	915	855
30°	996	863	776
35°	972	808	707
40°	948	750	627
45°	921	685	555
50°	892	619	484
55°	863	549	416
60°	829	475	345
65°	791	399	314
70°	745	328	289
75°	688	300	270
80°	608	267	246
85°	478	211	211

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 921 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	4.6
10°-20°	346.7	12.5
20°-30°	486.7	17.6
30°-40°	530.5	19.1
40°-50°	487.6	17.6
50°-60°	382.9	13.8
60°-70°	249.3	9.0
70°-80°	128.3	4.6
80°-90°	32.8	1.2
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°	959.6	34.6
0°-40°	1490.1	53.8
0°-60°	2360.7	85.2
0°-90°	2771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2771.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1347	1347	1347	1347	1347	
5°	1347	1341	1325	1336	1333	128
15°	1282	1268	1227	1204	1191	361
25°	1163	1124	1044	994	975	535
35°	1002	940	833	756	729	627
45°	819	738	610	523	494	633
55°	623	528	396	323	300	557
65°	421	322	212	171	167	417
75°	224	139	98	89	88	237
85°	52	27	23	23	23	63
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1347.4	1347.4	1347.4	1347.4	1347.4
2.5°	1353.5	1347.4	1333.9	1346.2	1343.7
5°	1347.4	1341.2	1325.4	1336.4	1332.8
7.5°	1336.4	1329.1	1312.1	1316.8	1310.8
10°	1321.8	1313.2	1288.8	1285.1	1277.9
12.5°	1303.5	1292.5	1259.5	1252.2	1238.8
15°	1281.5	1268.1	1226.7	1203.5	1191.4
17.5°	1255.9	1236.4	1185.1	1158.4	1138.8
20°	1226.7	1202.2	1141.2	1110.8	1083.9
22.5°	1195.0	1166.9	1096.1	1054.7	1036.5
25°	1163.2	1124.2	1043.7	993.8	975.4
27.5°	1125.5	1083.9	995.0	937.7	909.5
30°	1085.3	1038.8	941.2	879.1	846.2
32.5°	1046.2	990.1	890.1	817.0	786.4
35°	1002.4	940.1	832.8	756.0	729.1
37.5°	959.7	892.5	779.1	695.0	664.6
40°	914.5	841.4	723.1	636.5	604.8
42.5°	868.1	790.1	667.0	576.7	546.3
45°	819.4	737.7	609.7	523.1	493.8
47.5°	773.1	686.6	554.9	468.2	441.4
50°	721.8	635.3	501.1	417.0	391.4
52.5°	671.8	580.4	450.0	369.4	346.3
55°	623.1	528.0	396.3	323.1	300.0
57.5°	573.1	475.6	348.7	280.4	261.0
60°	521.8	424.3	298.7	236.6	217.1
62.5°	472.0	374.4	256.0	197.6	187.9
65°	420.7	321.8	212.1	170.7	167.0
67.5°	372.0	273.1	170.7	150.0	146.3
70°	320.7	225.6	141.4	129.3	124.3
72.5°	272.0	181.7	118.3	108.6	106.1
75°	224.3	139.0	97.6	89.0	87.9
77.5°	176.9	98.7	76.9	72.0	69.4
80°	132.8	70.7	58.4	53.7	53.7
82.5°	92.7	47.6	40.3	37.7	37.7
85°	52.4	26.8	23.1	23.1	23.1
87.5°	19.6	9.7	9.7	8.6	8.6
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	11.47	12.99	11.84	13.31	13.62	7.43	8.95	7.80	9.27	9.58
	3H	13.24	14.60	13.61	14.93	15.29	8.70	10.06	9.07	10.39	10.75
	4H	13.90	15.18	14.30	15.53	15.91	9.20	10.48	9.60	10.83	11.21
	6H	14.39	15.57	14.80	15.94	16.33	9.58	10.76	9.99	11.13	11.52
	8H	14.56	15.68	14.98	16.07	16.47	9.70	10.83	10.13	11.22	11.62
	12H	14.66	15.74	15.09	16.12	16.55	9.78	10.86	10.21	11.24	11.67
4H	2H	11.58	12.86	11.97	13.20	13.58	8.13	9.41	8.53	9.76	10.13
	3H	13.51	14.57	13.92	14.97	15.37	9.57	10.63	9.98	11.03	11.43
	4H	14.26	15.21	14.69	15.63	16.07	10.17	11.13	10.60	11.54	11.98
	6H	14.85	15.68	15.31	16.12	16.58	10.66	11.49	11.12	11.93	12.39
	8H	15.06	15.84	15.53	16.29	16.75	10.82	11.60	11.28	12.04	12.51
	12H	15.22	15.91	15.70	16.39	16.86	10.94	11.63	11.42	12.11	12.58
8H	4H	14.28	15.06	14.75	15.50	15.97	10.52	11.30	10.99	11.75	12.21
	6H	14.92	15.56	15.42	16.05	16.53	11.11	11.75	11.61	12.24	12.72
	8H	15.17	15.75	15.68	16.26	16.74	11.33	11.91	11.84	12.42	12.91
	12H	15.37	15.88	15.88	16.38	16.94	11.51	12.02	12.02	12.51	13.08
12H	4H	14.27	14.96	14.75	15.44	15.91	10.57	11.26	11.05	11.74	12.21
	6H	14.90	15.48	15.41	15.99	16.48	11.17	11.75	11.69	12.26	12.75
	8H	15.19	15.69	15.69	16.19	16.75	11.45	11.96	11.96	12.45	13.01