

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: P930049

Luminaire Tested: DFN2DS-HX2F0-020DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930049
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-HX2F0-020DS930-FLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

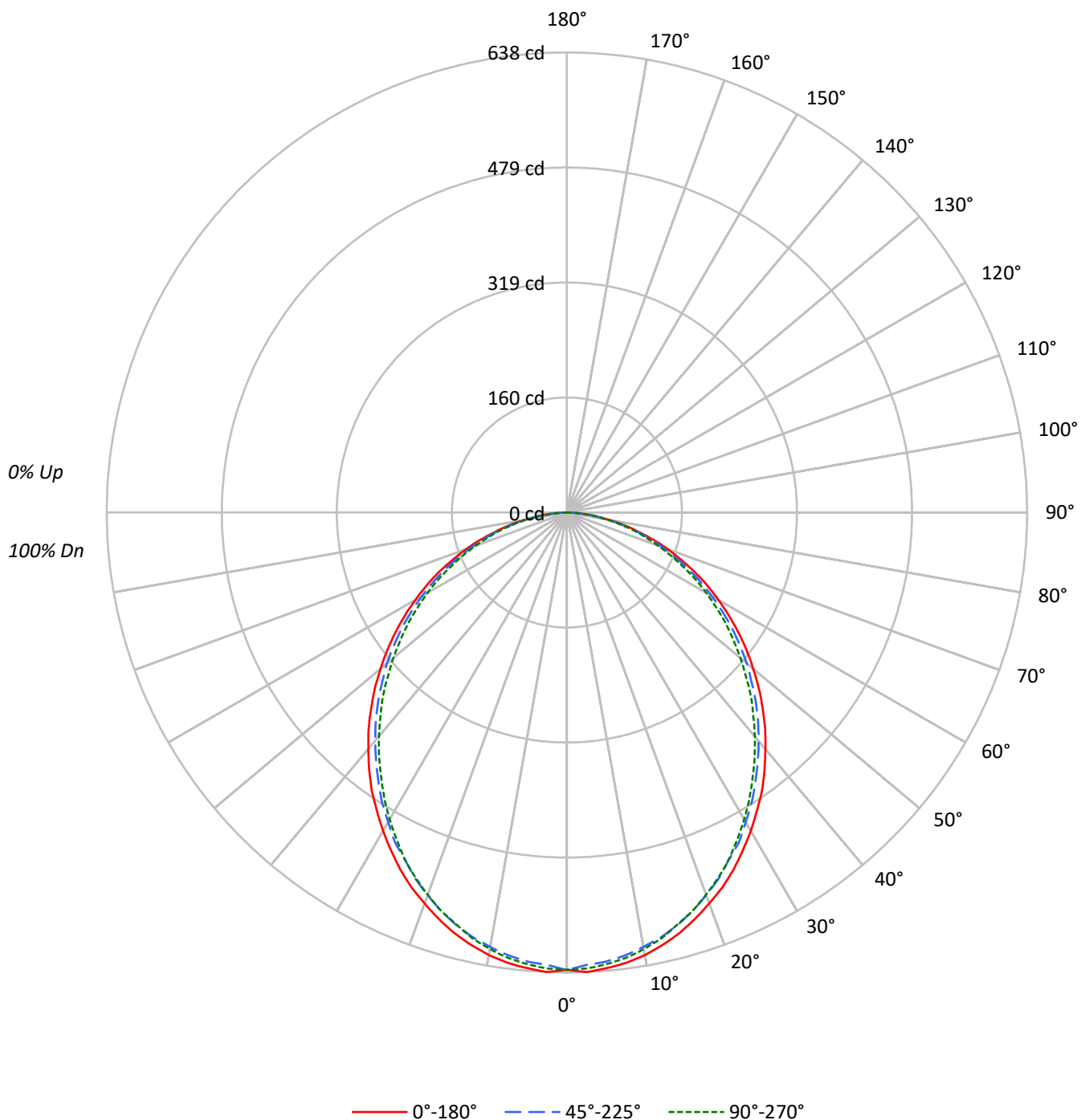
Lumens per Lamp: N/A
Luminaire Lumens: 1613.7 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.3' x L: 1.99' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
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°	1494	1494	1494
5°	1500	1478	1487
10°	1491	1463	1471
15°	1473	1445	1443
20°	1446	1416	1414
25°	1421	1381	1381
30°	1387	1349	1337
35°	1356	1310	1291
40°	1317	1272	1247
45°	1278	1234	1203
50°	1236	1194	1151
55°	1192	1147	1105
60°	1144	1092	1052
65°	1092	1038	990
70°	1025	970	924
75°	932	893	872
80°	828	803	761
85°	673	643	579

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1278 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.7	3.7
10°-20°	168.0	10.4
20°-30°	246.8	15.3
30°-40°	286.7	17.8
40°-50°	286.3	17.7
50°-60°	249.7	15.5
60°-70°	184.6	11.4
70°-80°	104.4	6.5
80°-90°	27.6	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°	474.5	29.4
0°-40°	761.2	47.2
0°-60°	1297.2	80.4
0°-90°	1613.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1613.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	634	634	634	634	634	
5°	634	632	625	630	629	60
15°	604	600	592	595	592	170
25°	546	542	531	532	531	251
35°	472	465	456	452	449	294
45°	384	379	370	364	361	296
55°	290	287	279	272	269	260
65°	196	192	186	180	178	194
75°	102	101	98	94	96	109
85°	25	24	24	22	21	29
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	634.2	634.2	634.2	634.2	634.2
2.5°	637.9	634.9	628.1	634.2	633.1
5°	634.2	631.9	625.1	630.0	628.8
7.5°	630.0	626.3	619.6	624.5	623.3
10°	623.3	619.1	611.7	616.5	614.8
12.5°	614.1	610.5	603.2	606.2	605.0
15°	603.8	600.2	592.2	594.6	591.6
17.5°	591.0	587.4	579.4	582.4	579.4
20°	576.9	573.3	564.7	566.6	564.1
22.5°	562.9	557.5	549.5	549.5	548.3
25°	546.5	541.6	531.2	532.4	531.2
27.5°	528.1	523.9	516.0	514.2	511.1
30°	509.9	505.0	495.8	494.1	491.5
32.5°	490.3	486.7	476.9	473.3	470.8
35°	471.5	465.4	455.6	451.9	448.8
37.5°	450.1	444.6	434.8	430.6	427.5
40°	428.1	423.2	413.4	408.1	405.5
42.5°	406.8	401.9	392.2	386.1	382.4
45°	383.6	379.4	370.2	363.5	361.0
47.5°	361.0	356.8	347.0	340.3	336.7
50°	337.2	334.2	325.7	317.1	314.1
52.5°	314.1	309.8	301.9	295.2	291.0
55°	290.3	286.6	279.3	272.0	269.0
57.5°	266.5	263.5	255.5	248.2	245.7
60°	242.7	240.3	231.8	225.0	223.2
62.5°	219.6	215.2	209.2	203.1	200.7
65°	195.8	192.1	186.1	180.5	177.5
67.5°	171.4	168.3	162.8	158.6	156.2
70°	148.8	146.4	140.8	136.6	134.2
72.5°	125.7	123.2	120.1	115.9	114.1
75°	102.4	101.3	98.1	94.5	95.8
77.5°	81.7	79.3	78.0	76.2	74.4
80°	61.0	60.4	59.2	57.3	56.1
82.5°	41.5	41.5	40.9	38.5	38.5
85°	24.9	24.4	23.8	21.9	21.4
87.5°	11.0	9.8	8.6	6.8	6.1
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	12.68	14.29	13.04	14.60	14.92	12.23	13.84	12.60	14.16	14.47
	3H	14.43	15.88	14.81	16.21	16.57	13.94	15.39	14.31	15.72	16.08
	4H	15.07	16.44	15.47	16.79	17.17	14.58	15.95	14.98	16.30	16.67
	6H	15.54	16.81	15.95	17.18	17.57	15.04	16.31	15.45	16.68	17.07
	8H	15.69	16.90	16.11	17.29	17.69	15.18	16.40	15.61	16.78	17.18
	12H	15.78	16.94	16.21	17.32	17.75	15.27	16.43	15.70	16.81	17.24
4H	2H	13.24	14.61	13.64	14.96	15.33	12.89	14.25	13.28	14.60	14.98
	3H	15.21	16.36	15.62	16.76	17.16	14.81	15.95	15.22	16.35	16.75
	4H	15.99	17.03	16.42	17.44	17.88	15.57	16.60	16.00	17.02	17.45
	6H	16.59	17.49	17.04	17.93	18.39	16.15	17.06	16.61	17.50	17.96
	8H	16.78	17.62	17.24	18.07	18.53	16.34	17.18	16.80	17.63	18.09
	12H	16.91	17.67	17.39	18.14	18.61	16.46	17.22	16.94	17.69	18.16
8H	4H	16.26	17.11	16.72	17.55	18.02	15.89	16.74	16.35	17.18	17.64
	6H	16.98	17.68	17.47	18.17	18.65	16.60	17.30	17.09	17.79	18.26
	8H	17.24	17.87	17.75	18.38	18.86	16.85	17.48	17.36	17.98	18.47
	12H	17.44	18.00	17.94	18.49	19.05	17.02	17.58	17.53	18.07	18.63
12H	4H	16.29	17.05	16.77	17.53	18.00	15.92	16.68	16.41	17.16	17.63
	6H	17.02	17.66	17.53	18.16	18.65	16.65	17.29	17.16	17.79	18.28
	8H	17.34	17.90	17.84	18.39	18.95	16.96	17.52	17.47	18.01	18.57