

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: P918002

Luminaire Tested: DFN2DIP-TR3F0-030D030US930-RLFL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918002
REPORT IS A COMBINATION OF REPORTS P900272 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D030US930-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

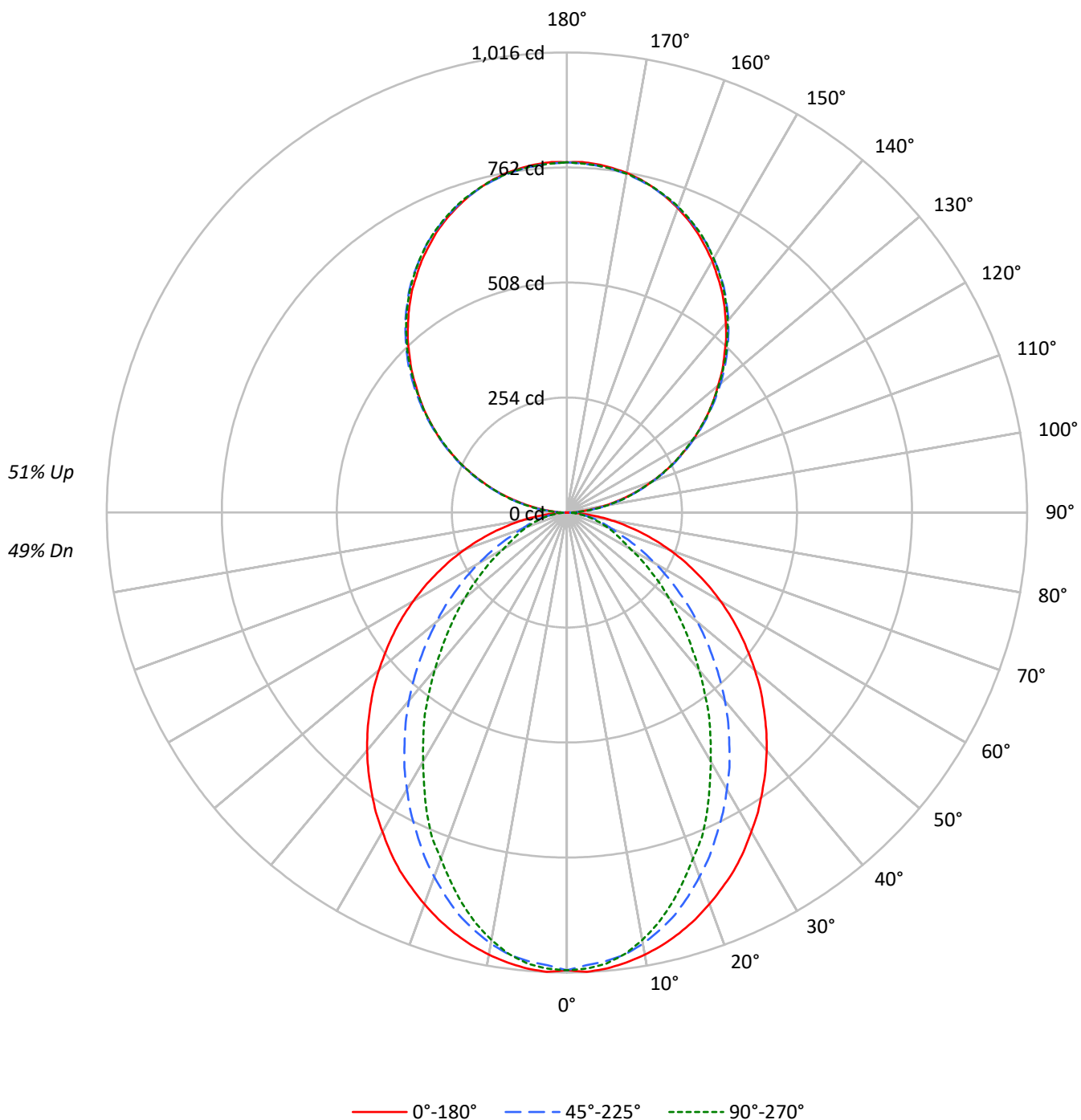
Lumens per Lamp: N/A
Luminaire Lumens: 4243.6 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 46.7
Input Voltage (V):
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	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1260	1260	1260
5°	1261	1239	1247
10°	1248	1213	1205
15°	1230	1172	1142
20°	1206	1116	1064
25°	1183	1053	989
30°	1151	989	895
35°	1119	919	811
40°	1087	848	716
45°	1050	769	630
50°	1012	689	546
55°	972	604	465
60°	925	515	382
65°	871	425	343
70°	806	341	309
75°	725	299	279
80°	607	247	240
85°	413	160	175

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1050 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.7	2.2
10°-20°	260.1	6.1
20°-30°	365.1	8.6
30°-40°	398.0	9.4
40°-50°	365.8	8.6
50°-60°	287.3	6.8
60°-70°	187.0	4.4
70°-80°	96.3	2.3
80°-90°	26.8	0.6
90°-100°	47.9	1.1
100°-110°	152.1	3.6
110°-120°	260.3	6.1
120°-130°	342.3	8.1
130°-140°	384.2	9.1
140°-150°	376.8	8.9
150°-160°	316.1	7.4
160°-170°	209.6	4.9
170°-180°	73.3	1.7
0°-30°	720.0	17.0
0°-40°	1118.0	26.3
0°-60°	1771.2	41.7
0°-90°	2081.2	49.0
90°-120°	460.2	10.8
90°-150°	1563.5	36.8
90°-180°	2162.0	50.9
0°-180°	4243.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	1011	1006	994	1003	1000	96
15°	962	951	920	903	894	271
25°	873	843	783	746	732	401
35°	752	705	625	567	547	471
45°	615	553	458	392	370	475
55°	467	396	297	242	225	418
65°	316	242	159	128	125	313
75°	168	104	73	67	66	178
85°	39	20	17	17	17	45
90°	1	8	23	21	22	4
95°	34	41	42	42	41	38
105°	140	142	144	145	145	148
115°	261	265	264	263	261	258
125°	380	386	384	382	381	339
135°	491	499	500	499	497	380
145°	597	601	605	606	603	373
155°	682	684	686	689	687	314
165°	742	741	741	746	743	209
175°	772	770	769	774	770	73
180°	774	774	774	774	774	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.9	1010.9	1010.9	1010.9	1010.9
2.5°	1015.5	1010.9	1000.8	1010.0	1008.2
5°	1010.9	1006.3	994.4	1002.7	999.9
7.5°	1002.7	997.2	984.4	988.0	983.4
10°	991.6	985.3	967.0	964.2	958.8
12.5°	978.0	969.7	945.0	939.5	929.4
15°	961.5	951.4	920.3	902.9	893.8
17.5°	942.2	927.6	889.2	869.1	854.4
20°	920.3	902.0	856.2	833.5	813.3
22.5°	896.6	875.5	822.4	791.3	777.6
25°	872.8	843.4	783.1	745.6	731.8
27.5°	844.4	813.3	746.5	703.5	682.4
30°	814.2	779.4	706.2	659.7	634.9
32.5°	784.9	742.8	667.9	612.9	590.0
35°	752.0	705.3	624.8	567.2	547.1
37.5°	720.0	669.6	584.6	521.4	498.6
40°	686.2	631.3	542.5	477.5	453.8
42.5°	651.3	592.9	500.4	432.7	409.9
45°	614.8	553.4	457.5	392.4	370.5
47.5°	580.0	515.1	416.3	351.2	331.2
50°	541.6	476.6	376.0	312.8	293.7
52.5°	504.0	435.5	337.6	277.2	259.8
55°	467.4	396.1	297.3	242.5	225.1
57.5°	430.0	356.8	261.7	210.4	195.8
60°	391.5	318.4	224.1	177.5	162.9
62.5°	354.1	280.9	192.1	148.2	141.0
65°	315.6	241.5	159.1	128.1	125.3
67.5°	279.1	204.9	128.1	112.5	109.7
70°	240.6	169.3	106.1	96.9	93.3
72.5°	204.0	136.2	88.7	81.4	79.6
75°	168.3	104.3	73.2	66.8	65.9
77.5°	132.6	74.0	57.6	54.0	52.1
80°	99.7	53.1	43.9	40.3	40.3
82.5°	69.5	35.7	30.2	28.4	28.4
85°	39.3	20.1	17.4	17.4	17.4
87.5°	14.7	7.3	7.3	6.4	6.4
90°	0.7	8.4	22.8	21.4	22.2
92.5°	14.4	19.6	20.3	21.0	21.0
95°	34.1	40.6	41.7	41.7	40.6
97.5°	56.7	62.7	65.3	65.3	65.3
100°	82.8	88.1	90.0	90.0	89.4
102.5°	110.3	114.3	116.8	117.6	116.8
105°	140.4	142.3	143.7	144.8	144.8
107.5°	170.2	173.0	173.0	173.5	170.2
110°	199.2	202.9	202.9	202.9	201.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	230.4	234.4	233.7	231.8	230.4
115°	261.2	264.9	263.7	263.1	261.2
117.5°	291.7	296.9	293.6	291.7	289.8
120°	322.5	327.7	322.5	322.5	320.4
122.5°	350.5	357.0	353.8	351.9	350.5
125°	379.9	385.7	383.8	381.7	381.1
127.5°	408.5	415.8	413.3	410.4	408.5
130°	435.4	443.8	442.6	441.2	438.6
132.5°	465.5	472.0	472.5	469.2	467.3
135°	491.4	498.6	500.0	499.3	497.4
137.5°	520.2	526.1	527.3	526.8	524.0
140°	545.7	551.5	554.8	554.8	552.2
142.5°	571.9	577.6	579.5	580.2	577.6
145°	596.6	601.2	605.0	605.6	603.1
147.5°	618.7	624.5	627.3	628.5	625.9
150°	641.6	645.6	648.1	650.2	648.1
152.5°	661.9	665.8	669.0	671.6	669.0
155°	682.2	684.0	686.1	689.3	687.3
157.5°	699.6	701.0	702.2	706.9	703.6
160°	715.3	716.6	717.4	721.3	718.5
162.5°	729.7	729.7	730.4	734.8	731.6
165°	742.1	741.4	741.4	746.0	742.7
167.5°	753.3	751.1	751.1	755.8	752.5
170°	761.7	759.8	759.1	763.8	759.8
172.5°	767.4	765.6	764.9	769.6	765.6
175°	772.2	770.3	768.9	773.6	769.6
177.5°	774.7	772.8	771.4	775.4	771.4
180°	773.6	773.6	773.6	773.6	773.6

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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	7.81	8.63	8.78	9.61	10.90	3.78	4.60	4.75	5.59	6.87
	3H	9.47	10.21	10.46	11.20	12.51	4.96	5.70	5.95	6.69	8.00
	4H	10.08	10.77	11.07	11.76	13.08	5.41	6.11	6.41	7.10	8.42
	6H	10.49	11.13	11.50	12.13	13.46	5.73	6.37	6.73	7.37	8.70
	8H	10.61	11.22	11.62	12.23	13.56	5.81	6.42	6.83	7.44	8.76
	12H	10.67	11.25	11.69	12.26	13.61	5.86	6.43	6.87	7.44	8.79
4H	2H	7.82	8.52	8.82	9.51	10.83	4.37	5.07	5.37	6.06	7.38
	3H	9.64	10.22	10.65	11.24	12.57	5.71	6.29	6.72	7.31	8.65
	4H	10.32	10.85	11.34	11.87	13.22	6.26	6.78	7.27	7.80	9.15
	6H	10.83	11.28	11.86	12.32	13.67	6.67	7.12	7.70	8.16	9.51
	8H	11.00	11.42	12.03	12.45	13.82	6.80	7.22	7.83	8.25	9.62
	12H	11.09	11.47	12.14	12.52	13.89	6.86	7.24	7.91	8.29	9.66
8H	4H	10.29	10.71	11.32	11.75	13.11	6.53	6.95	7.56	7.99	9.35
	6H	10.85	11.19	11.90	12.27	13.63	7.04	7.39	8.10	8.46	9.83
	8H	11.06	11.36	12.12	12.42	13.80	7.23	7.54	8.29	8.59	9.98
	12H	11.19	11.46	12.25	12.51	13.94	7.34	7.61	8.41	8.67	10.09
12H	4H	10.24	10.62	11.29	11.67	13.04	6.53	6.92	7.58	7.96	9.33
	6H	10.82	11.13	11.88	12.19	13.57	7.09	7.40	8.15	8.45	9.84
	8H	11.03	11.30	12.10	12.36	13.78	7.29	7.56	8.36	8.62	10.04